ROCKS AND MINERALS

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Rock Crystal with quartz phantom, from near Hot Springs, Ark., Photo by Reo N. Pickens, Jr.

Mineralogy • Geology • Lapidary

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CHIPS FROM THE QUARRY

COMING EVENTS

Sept. 5, 6, 7, 1959—National Gem Fair Portland, Ore. Host—Oregon Agate and Mineral Society, Portland, Ore. Albert J. Keen, Dealer Chairman, 2715 N.E. 41st Ave., Portland 12, Ore.

Sept. 26-27, 1959—Nebraska Mineral and Gem Club, Inc., Annual Show to be held in the Civic Auditorium, 17th & Capitol Ave., Omaha, Nebr. Celia M. Vokoun, Secy.-Treas., 1521 So. 25th St., Omaha 5, Nebr.

Oct. 3, 4, 1959—Annual Show of the Lincoln Gem and Mineral Club to be held at the new 1½ million dollar National Guard Armory on Hwy 77 at 1776 N. 10th St., Lincoln, Nebr. Mrs. Floyd S. Lange, Publicity, 1529 S. 9th St., Lincoln 2, Nebr.

Oct. 3, 4, 1959 — Humboldt Gem and Mineral Society will hold its 6th Annual Gem and Mineral Rock Show at Redwood Acres, Eureka, Calif. Mrs. A. D. Pettingill, Publicity Chairman, Box 461, Eureka, Calif.

Oct. 10, 11, 1959—Western Nebraska Mineral Society 4th annual Rock, Mineral and Indian Artifact Show will be held in Ogallala, Nebr. For particulars contact C. P. Mercure, Oshkosh, Nebr.

Oct. 17, 18, 1959—Annual Show of the San Francisco Gem and Mineral Society, Inc. at the Scottish Rite Auditorium, 1290 Sutter St., San Francisco, Calif. Mrs. Carol Reinecke, Corres. Sec'y., 4134 Judah St., San Francisco 22, Calif.

Feb. 5-26, 1960—Fifteenth Chicago International Exhibition of Nature Photography will be held in the Chicago Natural History Museum, Chicago, Ill. Entry forms obtainable from Otis Ivie, 721 N. Main St., Sandwich, Ill.

Photo on the Cover

Photo on the cover of this issue is of an interesting mineralogical phenomena - a quartz crystal within a quartz crystal, known as a quartz phantom. About 1 inch down from the top edge of the photo is the tip of the main crystal; 1 1/8 inch further is the tip of the phantom crystal (called a phantom because of its ghostly appearance). This interesting crystal comes from one of the famous quartz crystal localities near Hot Springs, Garland Co., Ark. Photo by Reo N. Pickens, Jr., 610 N. Martin, Waukegan, Ill.

Change of Address.

If you have moved, or planning to move, and you send R&M your new address, please give us your old address, also. The old address will aid us in finding your card easily and quickly in our files. Every subscriber is issued a card on which is kept a record of his subscription, date of payments, etc.—these cards are filed away by states. If a subscriber lives in California, moves to New York, and gives us both addresses, his card is easily found in a few seconds. But if he gives us only his New York address, it may take hours before his card is found in the California file.

Photos Wanted

R&M can always use photos of minerals, crystals, fossils, etc., but they must be black and white as no colored photos can be used. They must also be clear in detail. And if for the front cover, they must MUST be 3x5 in size—round or square photos cannot be used on the cover.

Please do not send negatives.

Pierrepont tourmaline locality closed

Just a note to let mineral collectors know that another collecting locality has been closed to all collectors. The Pierrepont (St. Lawrence Co.), N. Y., locality which has been famous for black tourmaline crystals is now closed to collectors.

For a change, this closure was not brought on by any damage or discourtesy of collectors.

I think this should be published in R&M so that collectors will not make any disappointing trips to the locality.

Harold J. Lienemann
Box 42
Gouverneur, N. Y.

QUARTZ-BARITE OCCURRENCE ALONG MORSE BROOK, OLD SPEC MTN. QUADRANGLE, MAINE

By B. M. SHAUB, 159 Elm Street, Northampton, Massachusetts

This mineral site can be reached from Bethel, Maine, by going north to Newry on Route 2 or west from Rumford on the same highway. At Newry turn northwest on Route 26 which follows Bear River. Continue on Route 26 for 9¼ miles to the bridge over Paine Brook. If you happen to miss this bridge you will come to Screw Auger Falls campsite in the next three-quarter miles. About 200 feet east of the bridge is a small turnout on the north side of the road. From the turnout a trail leads up-grade to the north and then to the west to Morse Brook which flows into Paine Brook near the highway, Fig. 1. The mineralized area is along the brook and is about half mile from the highway. The elevation is 350 feet above the road.

The cavities which have been exploited by collectors are in the east wall of the brook near the point where the trail reaches the brook and also on top of the east wall for a distance of 50 feet to the southeast. The deposition of the quartz crystals followed the faulting and crushing of the country rock along a zone 50 feet or more in width and at least 200 feet long. The country rock is closely allied to biotite granite. Most of the smaller fractures have been tightly cemented with quartz but the larger ones have remained open with crusts of well-developed quartz crystals lining the walls of the cavities, Fig. 2. It is not unusual to find radiating structures of quartz crystals but the terminations of these are often lost through contact with quartz crystals growing out from the opposite wall. Where the movement of the walls left open spaces or bulges along the faults or broken blocks of granite, the quartz did not fill these spaces but it developed very pleasing crusts of crystals of a whitish color but often the crystals are colorless and nearly transparent on the points. These crusts have been loosened from the walls by weathering

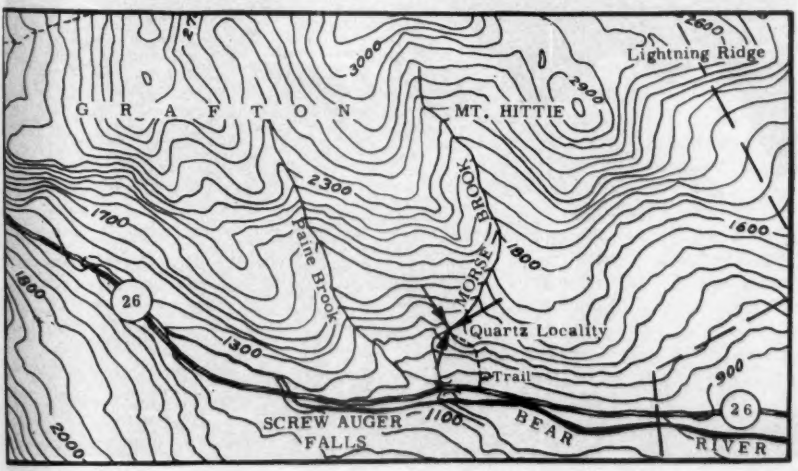

FIG. 1.

Section of Old Spec Quadrangle, Maine, showing location of quartz locality on Morse Brook.

and may, at times, be recovered from the mud at the bottom of the cavities. The crystals are usually heavily coated with iron stained clay, however, a prolonged treatment in a concentrated solution of oxalic acid will loosen the coating so that it can be brushed away and the smooth well-developed crystal crusts of quartz revealed. Most of the quartz specimens consist of crystals two to three inches thick on the average. The base of the crusts is often of a milky transparency while the points are sometimes clear and transparent. The crystals are short and usually show the terminal rhombohedrons and none of the prism faces, Fig. 2.

Some single crystals have been obtained, these were as large as 1¼ to 1½ inches in diameter and several inches long. They, too, were of a whitish color although some were quite clear near the points. A few crystals showed a very faint amethystine color on the tips of their terminations. The barite occurred as thin plates which range in size up to an inch on a side. The massive quartz vein fillings contain a minor amount of pyrite which has mostly altered to limonite, leaving an auriole of iron stain about the original iron sulfide grains.

The best clean crystal groups seen by the author were up to 6 to 8 inches square. They were obtained from cavities as much as two feet across.

The site at present looks as if it has possibly yielded its entire accumulation of crystals, but the enthusiastic collectors always ready and willing to dig and pry away the rock will undoubtedly come away in the future with good crystal groups which will add to the attractiveness of their cabinets.

During an interview with Mr. Thurston Cole of Rumford Point he told the writer that the locality had been known to the old timers for many years, and that his father knew that a mineralized zone occurred on Morse Brook for more than 30 years and that the location was generally known to the Newry people.

FIG. 2.

Well developed quartz crystals line walls of cavities along Morse Brook.

It is said that during the early days no one paid any attention to the mineralized section of the brook, but as the interest in minerals developed, collectors began to visit the locality. Among the first, if not the first, to seriously collect at the area was Thurston Cole who rode his bicycle from his home in Rumford Point to the locality on V-J Day, (September 2, 1945), when he came away with a pack sack filled with quartz crystals. He stated that on that visit the large pocket was about the size of a large football. Cole learned of the area from his father who had been told about the locality by an elderly neighbor of his. Now the site has the appearance of one which is typical of a favorite collecting locality. The former opening which was of football size less than two decades ago is now large enough for a person to crawl into and use a bar to pry away the rock. Wherever there is an indication of a probable cavity there are evidences of chiseling and digging. Instead of an occasional collector who visited the place a decade ago Mr. Cole remarked that "people go there now in crowds."

The location of a scenic camp site so near draws people to the vicinity for a Sunday or holiday picnic and the proximity of the mineralized zone on Morse Brook provides an opportunity for the more vigorous members of the family to try their hands at collecting quartz crystals.

The writer wishes to express his appreciation to Stuart F. Martin of Rumford Point for an interesting day visiting mineral localities in the vicinity of Newry and Rumford Point, including the Morse Brook quartz deposit.

OREGON CONTRIBUTES TO ROCK CITY, ILL., MONUMENT.

PORTLAND (Special) — Oregon's official contribution for a midwestern monument is a bit of wood born several million years too soon.

The brick-sized block of petrified wood will be set into a Rock City, Ill., memorial commemorating that community's centennial.

Anthony Brandenthaler, Oregon Centenial Commission chairman, accepted the brick from Oregon Agate and Mineral Society officials for shipment to Illinois.

Both Oregon and Rock City are observing centennials this year, and during September 5-7, the 500-member Oregon rockhound group will host the National Gem Fair in Portland.

The Oregon gift stone is from Prineville country, heart of Oregon and one of the world's most heavily agatized areas. It was found on Bear Creek, a Crooked River tributary, by H. S. Ballentyne of Cherryville.

While geological experts have not been consulted as to age and wood species, the speciman is from the heart of Oregon's present Ponderosa Pine lumbering country.

Problem of cutting a building brick-sized (8x3½x2½) block from the original 60-pound specimen was solved by Mrs. P. C. Stiff of Portland, who has an oversized (24-inch) diamond-edged saw.

Rich, chocolate color and full grain in the brick was sanded and polished by Mrs. Minnie Gilbertson, Society president on hand for the turnover. C. C. Church, Portland, sandblasted the inscription, "Oregon Centennial, 1859-1959."

Rock City official's request for a stone representative of Oregon was relayed by Gov. Mark Hatfield to Centennial officials here, who in turn called upon the lapidary society.

Committeemen for the stone's selection included E. P. Jensen and E. J. McQueary of Portland and Ballentyne.

On hand for the turnover to Brandenthaler was A. J. Keen, Portland, vice president of the Northwest Federation of Mineralogical Societies."

THE LARGE BEDFORD TOURMALINE GROUP

ERNEST WEIDHAAS, Pelham, N. Y.

Over thirty years ago, while on a collecting trip to the Kinkle Quarry at Bedford, New York, the late James G. Manchester called my attention to some exposed cross sections of large black tourmaline crystals embedded in the microline which formed the lower part of the perpendicular south wall of the quarry. The crystals were about two inches in diameter, and rather closely scattered over a roughly circular area about three feet across at its widest part.

All the stone which was broken out by the last blast had been removed; and the forty foot high overhang of loosened rock above the tourmaline was in such dangerous condition that it would have been suicide to work on the stone below it, so we just stood there, mourning for the tourmaline crystals which had been taken to the crusher and lost forever, and droolingly wondering what would become of the crystals still left in the rock.

Shortly thereafter the upper wall collapsed and the tons of huge stones effectually hid the spot. Upon inquiry, Mr. Manchester was informed that all work in that area had been discontinued, but a year or two later we noticed that the rubble and loose rocks were being cleared away, which indicated that blasting would be resumed in that particular part of the quarry. We thereupon set up a sort of watch-dog vigil, taking turns visiting the quarry every Sunday morning, as the blasting at that time was generally done on Saturday evening. The explosive used was black powder which was ignited by slow burning fuses, so that the blasts occurred after the workmen had left the quarry.

One Sunday afternoon in the fall of 1928, Mr. Manchester telephoned that the place we had been watching was blasted out the previous evening, and that he had recovered the tourmaline from it. By actual count there were 365 cross sections of tourmaline crystals, mostly about two inches across and from two to four inches in length, a few were larger, and there was also an immense amount of small fragments, the most remarkable thing being that almost all had fallen out of the feldspar matrix which had enclosed them. The balance were broken out and freed with comparative ease, the reason being that a slight disintegration had set up in the feldspar, so that the tourmaline was coated with a thin film of kaolinite, through which ran flakes of muscovite, and dendrites of psilomelane and limonite.

It was readily apparent that some of these sections could be fitted together, and a few long crystals were soon reconstructed, but as Mr. Manchester at that time was busily engaged in putting the final touches to his book, "The Minerals of New York City and its Environs," he suggested that all the material should be brought to my house to put together as many complete crystals as possible.

Only a few of the largest sections had been used on the first crystals, so there were still 350 sections and all the small fragments left. These were sorted, and placed on about forty feet of wide counters around an unused attic room, in systematic order, starting with the pieces having terminations, then the sections which had broken at right angles across the crystal, and so on down to the odd shaped and smallest fragments.

The broken ends of each piece were then touched time and time again to the broken ends of every one of the other sections, and when any two pieces fitted together, the striations and dendritic marks on the crystal faces were carefully studied and compared before cementing to prevent the possibility of error. As some of the fragments were not only broken crosswise but also lengthwise, this work seemed endless, but a year later, during which time over a thousand hours

had been expended, almost fifty crystals from eight to eighteen inches in length had been assembled.

Most of the crystals tapered to a narrow diameter at their lower ends, and also showed lengthwise indentations on these narrowing sides, where they had interlocked with other crystals, proving that they had radiated from a central core. Fitting these interlocking crystals to each other started another and entirely unforseen project, which turned out to be the champion three dimensional jigsaw puzzle of all time. Of course it was impossible to tell what the result would be, and several times during the process, it was believed that the ultimate end had been reached, but then the place where

FIG. 1. x1/5

The reconstructed group of 32 tourmaline crystals, total weight 42 lbs., from Bedford, N. Y.

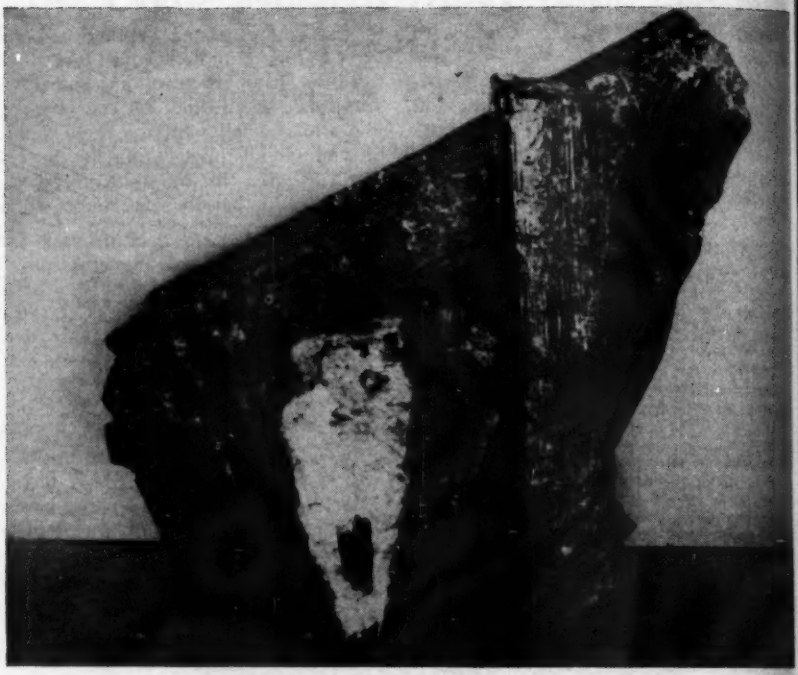

FIG. 2. x½

Reconstructed group of 15 tourmaline crystals, total weight 8 lbs., from Bedford, N. Y.

some seemingly unimportant fragment belonged would be found, and lead to further development, until finally there was a group composed of thirty-two crystals, mostly about two inches in diameter, and up to eighteen inches in length, weighing forty-two pounds. (Figure 1.)

As so much time had been given to the reconstruction of this large group, Mr. Manchester christened it the "Weidhaas Tourmaline," and insisted that it belonged to me, but I was just as insistant that it belonged to him, as he had discovered it. We finally compromised by presenting it to the American Museum of Natural History in New York City as a gift from both of us.

Another, but much smaller group consisting of three large and twelve small crystals, weighing eight pounds, was also formed. (Figure 2.)

The balance of the large crystals which could not be attached to either group, because their points of contact were not sufficiently large to support their weight if cemented to them, were presented to various museums.

ON THE MINERALS OF THE CHICAGO AREA[1]

By TOMASZ J. TURLEY, Chicago, Illinois

For many years the rocks and minerals occurring in the outcrops and quarries of the Chicago, Ill., area have been interesting to local mineralogists and geologists.

More than a half century has passed since Dr. Alia Robinson Crook (1864-1930), professor of Northwestern University, published one of the first works concerning the mineralogy of the Chicago region. This work was entitled "The Mineralogy of the Chicago Area," and was published by the Chicago Academy of Sciences, Bull. No. V of the Natural History Survey, issued July 25, 1902, Chicago, 57 pp.—10 figs.

The publication of Dr. Crook is now a bibliographical rarity. "The Mineralogy of the Chicago Area" has not lost its scientific and practical value, and it still is a very important source of information for anyone who starts to study the rocks and minerals of the Chicago district.

Because the geological structure and geological history of the Chicago area is not a complicated one, as notes Dr. Crook, therefore, we can not expect to find any precious metals, gems or a large variety of mineral species in this area.

The bedrock of the Chicago region is sedimentary—igneous and metamorphic rocks do not occur "in situ" here, they can be reached only with the aid of drilling to a depth of more than 3000 feet.

The sedimentary strata, which compose the bedrock and of which exposures can be found in many outcrops and quarries in the city and its environs, belongs to the Silurian system (Niagara formation). Under the Silurian strata lay the Ordovician and Cambrian deposits. The Niagara formation in the Chicago area consists of dolomitic limestone varying from a pure limestone to dolomite, about 450 feet thick. The more interesting outcrops of dolomitic limestone are the following: by Stony Island and 93rd Street, Sag Bridge; the best known quarries: at 27th Street and Halsted, in Berwyn, west part along the 47th Street, Bridgeport, Lyons, Thornton, Elmhurst, Lemont, Joliet, etc. The rocks of the Silurian system are covered with thick (up to 200 feet) deposits of Pleistocene period, which consist of various materials of glacial origin, (moraine, sand, gravel and clays) as well as recent alluvial deposits of lacustrine and fluvial origin.

According to Dr. Crook (1902), 50 mineral species occur and were determined in rocks of the Chicago area, but only 20 of this are indigenous and belong to the bedrock. The rest can be found in glacial drift—"emigrants" minerals.

During the past half century after publication of Dr. Crook's "Mineralogy of the Chicago Area" there have appeared relatively numerous publications[2] concerning geology, geography and petrography of the Chicago region, especially, in branch of studies of chemical and physical properties and practical application of mineral resources of greater Chicago.

Of special interest is the publication of Dr. D. J. Fisher, 1925, concerning geology of Joliet area, Illinois, in which there are exact analyses of dolomite and its mineralogical composition. Some of the petrographical studies of sedimentary rocks of the Chicago area described new minerals, such as heavy minerals in glacial drift and beach sands. Some new species of clay group minerals (illite, beidellite, etc.) were noted for the Chicago area; the dolomite limestone was the subject of precise chemical and petrographic studies. The chert nodules, chert bands from Niagara limestone in Chicago, their origin and chemical properties were investigated by J. R. Schultz.

(1) This article is a shortened version of the lecture presented by the author to the meeting of the Chicago Rocks and Minerals Society, August 14, 1957.

(2) H. Nichols, H. Bretz, F. J. Pettijohn, R. E. Grim, D. Graf, D. J. Fisher, J. Lamar, H. Otto and others.

The geology of the Chicago region was investigated by H. Nichols and especially by H. Bretz. Dr. H. Bretz monograph—"Geology of the Chicago region," 1939, 53, parts 1 and 2—is the handbook useful for anyone who is interested in the geological history, geomorphology and glacial deposits of the Chicago area. There is also the data on the minerals associated with bedrock.

It should be noted also that the Illinois Geological Survey has made numerous investigations and carried on research work especially of studies of the physical character, properties and chemical composition of rocks of Chicago, (dolomite, clays, sands, gravel, etc.)

There were made special mineralogical studies of dolomitic limestone of the Chicago area by the Illinois Geological Survey with the aid of the X-ray methods, (Dr. D. Graf) and chemical investigations of calcite. The new accessory minerals were determined in dolomitic limestone. The finest fraction of unsoluble residue of Niagara dolomitic limestone from the Chicago area contained quartz in addition to the clay minerals: kaolinite, illite, and beidellite. Quartz is very common as linings in the numerous small cavities in the limestone and dolomite. In small cavities there was found opal.

According to new researches as relatively common accessory mineral in dolomitic limestone of the Chicago area can be found marcasite in radiating globular masses. According to Dr. D. J. Fisher, the marcasite is more common in Niagara dolomite than pyrite and showed signs of alteration to the hydrous oxide of iron (limonite) by Sag Bridge, Elmhurst. Pyrite also often showed signs of partial alteration to limonite.

According to the recent literature sources beside calcite and dolomite, the following minerals were found in Niagara dolomitic limestone in the Chicago area; quartz chert, calcareous chert, agate, opal, chelcedony, pyrite, marcasite, asphalt,[3] sphalerite, galena, siderite, limonite, melanterite. kaolinite, illite (in unsoluble residue), traces of sulfur, very rare argentite and millerite.

During my field observation in summer 1954 I found in outcrop of dolomitic limestone of Niagara formation near Sag Bridge in Chicago one specimen of chalcopyrite with chalcocite and an olive-green mineral, which after microscopical studies was determined by Dr. G. W. De Vore (University of Chicago) as glauconite, a hydrous silicate of Mg. Fe, K, P. (refr. index about 1.58) of microcrystalline structure. The presence of glauconite is noted in dolomite from St. Francis Co., in St. Louis, Missouri.

The presence of glauconite in dolomite of Niagara formation can be explained as a mineral which is characteristic of sediments accumulated in sea bottom.

The recent precise chemical analysis of dolomite of the Chicago region (Joliet) shows the presence of oxides of barium, strontium, trace of zirconium, oxides of Na, K and P, it is possible the finding in dolomite of the Chicago area, the strontium and barium bearing minerals (celestite, barite.) There is no data about the presence of fluorite in dolomite of the Chicago area.

During the past years there were made also special studies of the heavy minerals in beach sands, gravel and clay of the Chicago region. The following heavy minerals were found (78th Street, Rogers Park): magnetite and limonite, augite, garnet, hornblende, hypersthene, diopside, actinolite, epidote, zircon, leucoxene, pyrite. Rare and very rarely were found: tourmaline, staurolite, rutile, kyanite, ilmenite, chlorite, titanite, topaz. There was found in one sample from gravel (Chicago Lake Beach), monazite. In beach sands and gravel were determined the minerals of the feldspar group —orthoclase and plagioclase, on the mica minerals in sands there is little data. The sand contains the carbonates and soluble

(3) The locality of the asphalt in limestone (Stony Island and corner of 93rd Street) has scientific interest for geologists and collectors.

material about 15 percent, 80 percent of minerals of beach sands belong to the quartz and chert.

In glacial sands were found hornblende, diopside, hypersthene, garnet, magnetite, very rare, zircon, epidote and tourmaline. In clay of the Chicago area were determined some minerals of clay group minerals: kaolinite, halloysite, illite, montmorillonite.

The study of geological literature concerning the Chicago region and personal observations in field by the author has permitted compiling a list of minerals of Chicago region which occur and are described. This list includes 82 minerals of which only 24 belong to the bedrock and the rest are minerals described and known in rocks of quarternary deposits (drift and recent deposits) "the mineral emigrants". This list will be published separately. The number of mineral emigrants can be theoretically extended more.

The author wrote also a bibliographical list of publications (will be published separately) in branches of geology, mineralogy and geography of the Chicago area—60 titles.

On the basis of chemical examinations 35 elements are determined in rocks and minerals of the Chicago area. Theoretically all known chemical elements can be detected in minerals and rocks of the Chicago area.

The territory of the Chicago area naturally is characterized by the prevailing occurrence of rock forming chemical elements and there are a very small quantity of metallogenic elements. The chief elements belonging there are those having an economic importance after oxygen, are the following: silicon, aluminium, iron, magnesium, calcium, carbon, hydrogen. In small quantity were detected sodium, potassium, phosphorus, sulfur, nitrogen, barium, strontium, fluorine, chlorine, zirconium (traces).

The metallogenic elements, exclusively iron, in some small quantity, titanium, zinc, lead, manganese, very rare copper, silver, nickel and gold. Some elements can be found in mineral sulphides with spectrographic analyses, selenium, thallium, arsenic, antimony, indium, gallium, cobalt, cadmium[4].

Of great interest is magnesium, which belongs to the common chemical element of bedrock. "A great body of a potential ore of strategic metal magnesium lies under Chicago"—wrote in 1942 Dr. H. Nichols, curator of the Geology Department of the Field Natural History Museum (now Chicago Museum).

It is worthy to note that the dolomitic limestone (from 16 to 40 per cent of $MgCO_3$) of the Chicago area is an enormous potential source of the metal magnesium because owing to the new technique, it is possible to produce pure magnesium from dolomite, especially when in Illinois there are local deposits of coal, fluorite and silicon which are needed for the metallurgical treatment of the metal magnesium.

The problem of the metal magnesium in the Chicago area, therefore needs an exact scientific research, economical analysis and investigations.

And finally it is worth while noting that the mineral resources of the Chicago area represent very important economic value because it serves as a rich local reserves of raw materials for many purposes, mostly as building stone materials, cement, as soil softener, etc.

The author wishes to extend his appreciation to Dr. Robert Withcomb Karpinski, Prof. of University of Illinois, Chicago, and Prof. Edward Kraus, University of Michigan, for the reading of this work and for their discussions and criticism.

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(4) There are no data or literature concerning the measurement of radioactivity of rocks or minerals of the Chicago area. The radioactivity of limestone is very low, but it is possible that the bituminous limestone may be more radio-active.

NOTES ON THE MINERALS OF AMELIA, VIRGINIA

By ALLISON CUSICK, RD 2, Bloomingdale, Ohio

With the recent renewal of a certain amount of activity at the old mica mines of Amelia Court House, Virginia, much more mineralogical attention will probably be focused on this locality. Because of this, I have written this article to give collectors some idea of the minerals which have been or can be found. I hope to show that though the days of eight inch Microlite crystals and five hundred pound Topazes are over, good material is still to be found with the searching.

Amelia Court House, the county seat of Amelia County, lies on U. S. Route 360 just 36 miles south-west of Richmond. The elevation is about 358 feet above sea level. The land is rolling with farmlands predominant. There are small woods with beech, wild cherry, and post and blackjack oaks. The trumpet-vine is rampant, having escaped from cultivation years ago.

The two mines of the area, the Morefield and the Rutherford, were originally mica mines with beryllium as a by-product. In recent years, Amazonite has made their names famous to lapidaries and "rockhounds" alike. The geological formation of the mines consisted of pegmatite dikes in the Amelia-Goochland Quartz-Monzonite Gneiss. But geology is not the subject of my article.

The subject *is* minerals, the seventy-six species which make collecting at Amelia so interesting. The list that follows should not be taken as absolute or final, doubtless there are additions and subtractions which will be made. I have merely tried to list the minerals of Amelia and to make small comments on their occurrence in the mines. If the name of a certain mine is not mentioned in connection with a particular species, it is assumed that it occurs in both places. I have starred the minerals likely to be found by the collector at Amelia.—18 minerals are so marked; more can be found.

*ALBITE, though a common feldspar, occurs in particularly good specimens at Amelia. Large, white platy masses of the variety Cleavelandite are abundant at the Rutherford. Mine and pieces with a lovely pale blue color are associated with Microlite. Rarely, some moonstone is found.

ALLANITE is rarely found as small black crystals and equally small platy masses.

ALMANDITE is, no doubt, one of the garnets present at Amelia, but its presence has not been satisfactorily proven.

ANALCITE has been reported to occur though quite rarely.

ANDESINE is a rare ingredient of the surrounding rocks.

ANDRADITE is an uncommon dark red garnet of the country rocks which surround the pegmatite. The orangish variety Topazolite has also been found.

ANGLESITE occurred years ago at the Rutherford Mine, probably as an alteration.

ANKERITE formerly was quite rare at both mines.

APATITE is occasionally found in the feldspar, sometimes in large green-brown crystals.

ARSENOPYRITE was very rarely found, sometimes in silvery crystals.

BAVENITE. This rare zeolite is *extremely* rare at the Rutherford Mine.

BERTRANDITE has been discovered as an alteration on Beryl.

*BERYL, being a typical pegmatite mineral, is common in both mines, though usually in whitish fragments. However, opaque crystals up to five feet in length have been found. In the author's collection is a small gem quality prism with a clear blue color resembling aqua marine. This is from the Morefield Mine.

*BIOTITE is a common mica at both mines. Sometimes black cylindrical crystals up to four inches long are found embedded in feldspar.

BLYTHITE, a rare type of garnet, was reported from Amelia thirty years ago.

CALCITE, elsewhere a common mineral, is uncommon at Amelia. It was found quite deep in the original shaft of the Morefield Mine. The variety Manganocalcite occurs in a road cut where U. S. Route 360 crosses a railroad west of Amelia.

CASSITERITE was very rare in the early days of the mines.

CERRUSITE formerly occurred at Amelia, perhaps as an alteration of Galena.

CHABAZITE occurred in the gneiss which surrounds the pegmatites along with other zeolites, such as Analcite.

CHALCOCITE was found as late as 1952 at Amelia, though very rarely.

CHROMITE grains were found in the country rock near Amelia.

CHRYSOCOLLA was discovered in the pegmatites and the country rocks near Amelia as late as 1952.

CLINOZOISITE is a rare constituent of the pegmatite.

*COLUMBITE in small black crystals and masses is fairly common. It is difficult, however, to distinguish it from Tantalite.

ENSTATITE is an ingredient of the gneiss or country rock of the area.

EUXENITE is the rarest of the radioactive minerals which are to be found at Amelia.

FERGUSONITE is also radioactive, but was found over thirty years ago.

*FLUORITE in small greenish octahedral crystals up to one-half inch in diameter is fairly rare. The crystals are fluorescent yellow under short-wave ultraviolet. The variety Chlorophane has been found in whitish masses at the Rutherford Mine.

GALENA, though an unusual pegmatite mineral, was rare at the Rutherford Mine.

GROSSULARITE was the rarest garnet to occur at Amelia. It is very difficult to distinguish it from the other garnets which also may be found.

GRAPHITE does not properly belong to this list since it has never been discovered at the mines. However, it has been noted in a gneiss formation a few miles north of Amelia Court House.

HELVITE is very rarely found as small amber-colored masses in Albite.

ILMENITE is scattered in the country rock adjacent to the mines. Sometimes, iron-colored pieces several inches long and of the same thickness are found.

*KAOLIN is widespread as an alteration of feldspar in white chalky masses,

*KYANITE, sometimes in large blue blades is found in the gneiss surrounding the pegmatite at the Morefield Mine.

LEPIDOLITE was reported from the Rutherford Mine many years ago. This record, however, has been questioned as pink Muscovite.

LEPIDOMELANE is the rarest mica at Amelia. It has been occasionally found in the gneiss formation.

LEVERRIERITE, a very unusual mineral anyhere, was found in small amounts along with vermiculite in the gneiss.

*LIMONITE stains are, unfortunately, abundant, often coating speciments with an unwanted brown.

MAGNETITE. When some of the aforementioned Ilmentte is crushed, a few of the grains are always magnetic. This probably represents an intergrowth of the two minerals.

MARCASITE is sometimes found in the pegmatite and adjacent gneiss, but it is far from common.

MICROCLINE in the famed variety Amazonite is relatively common at both mines. This mineral, more than any other, has made the name of Amelia famous. Its beautiful green masses lend themselves well to lapidary work, making cabachons, spheres, and slabs of great and lasting beauty. Crystals of Amazonite up to three feet in length have been found. Common white Microcline also occurs.

*MICROLITE is another radioactive mineral which was formerly much more common than it is at present. In the early days of the mines, more than thirty years ago, crystals measuring six and eight inches were discovered embedded in feldspar. Today only small brown or black crystals are found. Uranian Microlite (Hachettolite) has been reported from the Rutherford Mine.

MOLYBDENITE was very rare at the Rutherford Mine.

MONAZITE is found in both mines, but is rather uncommon. In the author's collection is a one-by-one inch reddish-tan crystal from the Morefield Mine which is quite radioactive.

*MUSCOVITE is extremely common in silver-white plates and crystals. A few pale green pieces have been seen and red is reported by Dana.

OPAL is extremely rare in the mines in small, milky pieces.

ORTHOCLASE is one of the white feldspars present at Amelia, but it is not too common.

PHENAKITE crystals were common at the Morefield Mine many years ago. Transparent micro-mounts can still be found today.

PHLOGOPITE mica is uncommon at the Morefield.

PHOSPHURANYLITE, a rare radioactive, has been found at the Rutherford Mine.

PYROCHLORE was rare at the Rutherford Mine.

*PYROLUSITE is probably present as dark stains and dendrites.

PYRRHOTITE was found years ago at the Rutherford Mine.

*QUARTZ, as may be expected, is ubiquitous and abundant, mostly as mere milky to white masses. However, crystals of both common and smoky quartz may be found and few pale Amethyst crystals are sometime discovered.

RUTILE is rare in the mines, but locally common in the country rocks. In the author's collection is a black twin crystal which is perched on the beforementioned Monazite crystal. This is from the Morefield Mine.

SAMARSKITE in small, black crystals is very rare.

SCAPOLITE has been found in the gneiss surrounding the pegmatite dikes.

SCORODITE was rare as green alteration of Arsenopyrite.

SILLIMANITE has been found in the surrounding gneiss.

*SPESSARTITE is the commonest garnet at Amelia, though it is by no means common. Beautiful transparent red gem crystals are occasionally found.

SPINEL var. GAHNITE was quite rare in small dark-green crystals.

SPODUMENE was found in large pinkish masses in the shaft of the Morefield Mine.

*TANTALITE, in small, flat black crystals, is fairly common. The variety Manganotantalite is also found.

*TOPAZ, in large, white opaque crystals, are found at both mines. Many years ago, crystals weighing five hundred pounds and measuring over four feet were produced. At the same time one water clear gem crystal was discovered at the Morefield.

*TOURMALINE is fairly common in black crystals. No colored crystals have ever been found.

TRIPLITE. was reported from the Rutherford Mine.

URALITE has been found at both mines.

VERMICULITE was found in the neighboring gneiss.

VIVIANITE was first discovered by the author at Amelia in 1957. About fifteen small, compact, blue pieces were found at the Rutherford Mine. They were identified as Vivianite by Harry Ranck of the North Museum, Franklin and Marshall College, Lancaster, Pennsylvania. These pieces form the first record of this mineral for Amelia.

WOLFRAMITE was rare at the Rutherford Mine.

*ZINNWALDITE, an unusual mica, is found in both mines in dark amber-colored masses up to eight inches across.

ZIRCON is rare in small brown crystals. The variety Cyrtolite has been found.

ZOISITE has been discovered in the gneiss which encircles the pegmatite dikes and, occasionally, in the pegmatite itself.

I hope that a prospective collector will not be discouraged at the persistent use of the past tense in the descriptions. Many species may be found, but some only after diligent digging. However, the "rockhound" is a species not easily disheartened.

Doubtless, errors exist in the body of the article. However, I make no claims that my statements are finally and faultlessly correct. Instead, I would like my readers to bear in mind the words of the great Swedish botanist Carl Linnaeus, who said.

> "If you have remarked errors in me, your superior wisdom must pardon them. who errs not while perambulating the domain of nature? Who can observe everything with accuracy? Correct me as a friend and I as a friend will requite with kindness."

Convention and Mineral Show held in Wyoming

The Wyoming State Mineral and Gem Society just completed a highly successful Convention and Show at Riverton, Wyoming, June 19, 20, and 21, 1959, at the Fair Building with the Riverton Mineral and Gem Society acting as host. Approximately-1500 people from 28 states and Canada attended the show and saw the outstanding exhibits.

On display by the Amber Guild, Ltd., of New York City, were many fascinating specimen pieces of amber containing insects, twigs, and leaves as well as lovely jewelry of Amber. Mrs. Edward Kopsa of the Cheyenne Mineral & Gem Society gave a very interesting talk on the origin and history of Amber to highlight the display.

Mr. & Mrs. Charles Bass of Jay Em., Wyo., from the Rex Young Rockhound Society, had on display a fossil seed and nut collection as well as their beautiful Fairburn and agatized wood collection.

Mr. & Mrs. R. J. Laughlin of the Cheyenne Mineral & Gem Society had 12 cases of jewelry which they had designed and made. The hand wrought mountings were set with variscite, chrysocolla, Belgian Congo malachite, and other valuable gem stones.

Nadine and Bob Kope of the Natrona County Mineral & Gem Society, of Casper, Wyoming, had their valuable and beautiful antique and ancient jade carvings, as well as a 15th Century picture in Italian marble on display.

Mrs. Virgil Y. Russell of Casper, Wyoming, had her husband's famous collection of Yuma points on display. And in addition there were a good number of other excellent artifact collections including the John Thomson's of Casper, Wyo., Louis Steeges' of Cheyenne, Wyo., and others.

Robert F. Parker, Geological Engineer, of Riverton, Wyo., gave a most interesting talk on the "General Geology of the Wind River Basin." Mr. Parker also had on display his petrographic microscope.

Mrs. Robert Short of Denver, Colorado, had some exquisite carvings of jade, coral and other gem materials, as well as some ornately carved miniature chairs, tables and other furniture in ivory.

Mrs. Paul Christiansen, also of Denver, Colo., had on display a very valuable Eden Valley limb about 8 or 9" long with a vine entwined around it. She also had a meteorite in a limb on display.

Dr. H. L. Harvey of Casper, Wyo., had his wonderful prehistoric display of carved dinosaurs with vegetation of the era when the dinosaurs roamed with a mountain background all in jades. He also showed his Chinese pheasant picture composed of multi-colored jades, and a most outstanding display of jade goblets and other carvings which he has completed this last year.

Mrs. Ward Aspaas of Cornville, Arizona, furnished the background music for the Convention with her now becoming famous "Singing Rocks."

The Wayne Johnstons' of Price, Utah, had their beautiful butterfly collection which were all made from Utah dinosaur bone.

Mr. & Mrs. Pete Todd of Roverton, Wyo., had their beautiful sphere collection on display as well as carvings made by Mr. Todd or purchased by him from abroad.

Louis Steege of the Cheyenne Mineral & Gem Society had on display artifacts brought to the United States by Dr. William Mulloy of the University of Wyoming from his trip to the Easter Islands with Thor Heyerdahl of Kon Tiki fame.

We are, of course, barely touching the surface when we mention these exhibits for there were 95 exhibitors from many states and all of these were of an exceptional quality.

Following the Convention, 3 field trips were taken, one to the Gas Hills area where the group were shown through the Lucky Mac Mill and Mining operations and allowed to hunt the dump for uranium ore specimens. The trip to the Eden Valley Wood beds was taken on Tuesday, and the Burma Hill-Airport Ridge areas were visited on Wednesday. Some 125 people went on the three field trips.

Torrington, Wyoming, was chosen as the site of the 1960 Wyoming State Mineral and Gem Show and Convention with the Rex Young Rockhound Society as the Host Society.

(*Continued on page 441*)

MINERALS and HURRICANES

By WALDO H. JONES, Displayman

U. S. Hurricane Warning Service, U. S. Weather Bureau, Myrtle Beach, S. C.

The question has often been asked the writer what possible benefit could be derived by mankind from such a terrible occurrence of winds and rains as are seen in hurricanes. There are great benefits hidden in the horrors of a tropical hurricane.

I had the job of Hurricane Warning Display Officer, while Coast Guard Commander, grafted onto me in 1946 after the Myrtle Beach area was struck by a terrible storm in June. There was no warning as such, only the Mayor of the town knew the thing was coming. He said nothing. Damage was high. So, suddenly the Hurricane Warning Service was formed and I had the Long Bay area here alone or about 55 to 60 miles of coast.

Shortly after, the storms were being charted and occurring far more often than anyone believed they did. I started out hunting the beaches after the storms and making some discoveries. I found great numbers of Pleistocene bones, mammalian and otherwise. Beautiful shells abounded and great forests of prehistoric tree stumps were uncovered, mainly cypress and pine.

One day while idly breaking off pieces of conglomerate coquina or shell calcite rock, I discovered a great clamshell upside down embedded in the rock, so laboriously, I dug it out. Beneath the shell, believe it or not, I found several groups of large dogtooth calcite crystals. Then I examined the rocks more closely and found that innumerable small water-washed sharks' teeth fragments were there also with small groups of black, sandy looking particles, some red and some brown. Quite by accident I discovered they were radioactive. This set me to searching and I found large streaks of black sands along the beaches after each storm. The sands were composed of:—

Ilmenite or iron rutile material—a titanium ore.

Rutile itself—a titanium ore.

Masses of radioactive monazite containing thorium, etc.

Zircon and other minerals.

Today these sands are being mined by great dredges away back from the ocean near the edges of the piedmont where they had been concentrated by some hurricanal surf thousands of years ago. Near Aiken, S. C., is one spot, at Trail Ridge, Fla., are several great dredging operations and the stuff today is quoted on the stock markets of the world. Jet planes are impossible without titanium, our paints contain it, and they are even planning to use the thorium to produce power by fission. But without the terrible wet forces of hurricanes, the erosion of mountains would be incredibly slow.

I have another discovery that may be of great interest to future science. Deposits of rocks and shells can dissolve in the acid soils of the tropics and semi-tropics. This dissolved calcium material probably has ions of hydrogen added to the formula so that when it reaches the lower level this is given up and the calcium is deposited as calcite or dog-tooth spar. But believe it or not some of these ancient Pleistocene shells are growing thicker and thicker as they add calcite internally. In some cases the crystals show on the margins of the great clams. In areas where great rainfall or tropic storms are common place this phenomenon is observed for it seems to require a soil more or less saturated with water but with water freely flowing below ground.

The foregoing makes me wonder if all the minerals formed beneath the earth are formed like some folk say by solutions under extreme pressures and temperatures. This I seriously doubt. This is especially true of the so-called silicious materials. Quartz crystals often slowly

form and are gradually built up in wet feldspar and similar veins. Almost all fine gem materials are found in a surrounding matrix of gooey mud usually gray or brownish-gray, showing that the wet elements of the matrix must have contributed and dissolved in water to the forming of the gems.

In the Muso, Colombia, emerald mines the emeralds are found in a soft gray gooey matrix and are not beautiful when first extracted but have to be carefully cleaned and surface polished. This to get rid of the kaolinic-like clay on the surface of most of them. The rainfall and incidence of tropical storms is very high in Colombia's mountains.

Another angle of hurricanes is the interchange of salty water and its many chemicals and fresh waters across the world from the tropics to the northern and southern poles. A hurricane can pump more water in five minutes than all the power pumps in the world can pump in a month.

The interchange of heat by hurricanes is also an important factor in keeping the temperatures across the world in balance. In the great desert areas where the water is lacking the storms are all dry killers. In the zones of wet hurricanes the storms deposit immense amount of heat, water and yes, even sea chemicals, far inland.

In the isles of the Pacific where immense amounts of water falls each year the heat is often too humid for white man's life. Had they our prevalent tropical hurricanes to move some of this humidity both the animal and plant life would profit. These wet spots have over 150 inches of rain a year or more. But they usually are not healthy spots for white civilized man. Fiji has 180" a year.

I have seen the forces of Hurricane Hazel and the more recent ones move over a million tons of sand from one beach and deposit it again on an embayment 16 miles away turning marsh lands into high sand shell fill.

This movement of oceanic waters is undoubtedly important also where volcanic activity has thrown up hills of solid ashes and volcanic material, this is redissolved by the hurricane rains, washed into the sea and later through the marvels of marine life becomes solid rock. Coral reefs and then some later earthquakes caused by changes in weight of waters adjacent to some weak spot push up this land into higher and higher solid lands with many of our minerals in them. Marbles form from the pressures exerted on calcium or magnesium rocks under heavy pressures, the rocks formed by storms and so forth in great hurricanal winds.

In fact there is every reason to believe that great storms, and one or more comets' disastrous effects, destroyed the intercontinental ridges of Atlantis over 50,000 years ago and the subsequent upheavels caused hurricanes and tidal waves that changed the whole world of that and later times. This upheaval can be seen starting all over again in the Azores where a volcano is now active. This is a part of the intercontinental ridges of Atlantis. Also when Atlantis sank the earth plunging eastward caused the hurricanes to start their westward plunges and great flows of hot water reached and melted the ice caps to the north and south. The result is our great and beautiful world of today. Minerals are often exposed by terrific floods accompanying hurricanes and without them you would perish in a stationary and stifling heat or a deadly freezing cold.

We are told that the forces of geology are incredibly slow but this is not always true. I have seen the whole face of a mountainous peninsular slide into the Windward Passage in Haiti, killing all the people and making beaches were none existed before. This was in 1954 when Hurricane Hazel passed over the place quite slowly but with immeasurable rains and winds. This heavy tropical volcanic soil held water to saturation and then a mammoth landslide occurred.

This same hurricane moved the beaches of the whole Atlantic coast from Cape Fear, N. C., to Cape Romaine, S. C., back to the westward 150 feet at least. The shells and sand and yes, even the

quite large coral rock was moved in places down the coast of Long Bay 16 miles and then thrown out onto the beaches covering what was the Eastern Marshes of Murrills Inlet. This made high land of unusable lands.

These are examples of geology on the move fast.

In the industrial towns and cities of the northern states, mainly Rhode Island and Connecticut, we find that towns have gradually encroached upon the flood beds of streams, and hurricanes these past few years have promptly cleaned out the valleys again. Mankind has to learn to live with these great destroyers. He cannot contain them.

Another thing that's taking place is the rapid destruction through erosion of the middle Atlantic beaches. South of Hatteras the five per cent of the New England or Labrador Current that is thrown into a great counter clockwise swirl heading south has cut great bays—Raleigh Bay, near Cape Hatteras, Onslow Bay, near Cape Lookout, and Long Bay, south of Cape Fear. Cape Hatteras itself is a product of the fighting of two great currents—the Gulf Stream and the south bound New England or Labrador currents. These great capes and bays are constantly changing and moving sand around, due to the effects of the great tropical hurricanes. The interior coastal sounds and bays behind these capes are among our finest pieces of waterway but unless the government and states get busy and jetty those outer islands, sooner or later, the bays will become open ocean.

I might add that Cape Hatteras and the other capes didn't exist before the submergence of the intercontinental ridge or Atlantis started to sink and allowed the hot gulf stream waters of the tropics to reach the ice caps of the north near the edges of the glacial moraines we see in northern Pennsylvania, New Jersey and New York. Then the water started warming up the ice, the seas arose, the Straits of Gibraltar being porous limestone ruptured and formed the great Mediterranean Sea where we find submerged cities in 150 to 300 feet of water.

We don't love hurricanes but they are undeniably necessary to our earthly well-being and health.

PICKENS MINERAL POST CARD DEPARTMENT

Reo N. Pickens, Jr., 610 N. Martin, Waukegan, Ill., one of our good advertisers, is a photographer whose hobby is mineral collecting. For over a year we have been receiving from Mr. Pickens post cards of minerals in color which he himself had taken. These mineral post cards are so beautiful, and with new ones coming out every month, that we have decided they deserve a spot all their own in R&M and so Pickens Mineral Post Card Department is set aside for them.

Two new post cards arrived May 22nd. One shows a group of large brown to reddish fluorite crystals.

"Fluorite from Rosiclare, Illinois. Mined in Southern Illinois and Kentucky. This specimen 5" x 7" (caption on card)."—very very nice!

The other card is extremely remarkable for the brilliance of color and detail of specimens—32 banded agates of different shapes, sizes, color and all nicely banded. They look so natural that unconsciously you almost reach out to pick one up.

"Lake Superior Agate. A variegated chalcedony. Found in the Mississippi River Valley and upper Great Lakes region. Specimens shown about 3/5ths actual size."—caption on card.

Wonder what Mr. Pickens will have next? (See his ad on page 453 in this issue).

Outokumpu, a generous source for minerals, specially noted for its chrome minerals.

By Aarne Laitakari, Director
Geological Survey of Finland
Boulevard 29, Helsinki, Finland

The Outokumpu Copper Mine (yearly output about 600,000 tons of ore) is located in Finland. The main minerals in the ore are chalcopyrite, pyrite, magnetite and sphalerite. The ore contains 3.2 per cent copper, 1 per cent zinc, 22 per cent sulphur and small amounts of cobalt, nickel, silver and gold. The country rock of the ore consists in places of serpentine rock which includes chromium. In skarn and in ore there are places where chrome minerals are found abundantly.

About 10 years before the Outokumpu ore deposit was discovered vividly green chrome garnet, uvarovite was met with here. After the ore was found and mining begun more chrome minerals were revealed.

The chrome minerals of Outokumpu are:

chromite
fuchsite (chrome mica)
chrome diopside
chrome tremolite
picotite (chrome spinel)
kammererite (chrome penninite)
uvarovite (chrome garnet)
tawmawite (chrome epidote)
eskolaite

Chromium appears in sepentine rock and dolmite. Fuchsite (chrome mica) is met with near the ore as brightly glistening coatings on cracks. Chrome diopside appears especially at the side of the ore as great masses in skarn formations. It is always green, but sometimes when it is bright green, it can be used as gem material. Sometimes small transparent prisms are met with. They are cut for faceted gems.

Chrome tremolite appears in the same way as chrome diopside, although in lesser amounts. It has a lovely green hue, too.

Picotite (chrome spinel) is found at a certain point in antophyllite-cordierite rock in the country rock of the ore.

Kammererite (chrome penninite) is found together with picotite.

Uvarovite (chrome garnet) is met with both in the ore and country rock. It is dark green. The biggest crystals are 1-2 cm in size. In addition to tbe big crystals, it is found as impregnation with chrome diopside.

The newest and most rare mineral of Outokumpu is eskolaite. As early as 1949 (an ardent and skillful amateur mineralogist and collector) Yrjö Vuorelainen, observed in reaction seams between the ore and country rock an unknown, dark mineral with diamond luster. It occurred in the group of chrome tremolite, uvarovite, chrome spinel and iron sulphides. Research performed with Mr. Vuorelainen by Dr. Olavi Kouvo revealed this mineral to be a chromium compound Cr_2O_3, and a new mineral. It was named after the famous Finnish mineralogist and geologist, prof. Pentti Eskola, hence the name eskolaite. The mineral is black, its powder is green. Hardness is over 9, sp. G. 5.22. The structure is similar to that of hematite.

Humboldt Society to hold big Rock Show

The Humboldt Gem and Mineral Society will hold its sixth annual gem and mineral rock show at Redwood Acres Fair Grounds, Eureka, Calif., on Saturday, October 3rd, from 10 A.M. to 10 P.M. and Sunday, October 4th, from 10 A.M. to 6 P.M. This is the largest rock show of its kind between San Francisco, Calif., and Portland, Ore. Last year we had over 6,000 visitors, and from all indications this year our new rock show will surpass all other shows held in this area, the heart of the redwoods.

Mrs. A. D. Pettingill
Publicity Chairman
Box 461
Eureka, Calif.

WORLD NEWS ON Mineral Occurrences

ITEMS ON NEW FINDS ARE DESIRED
PLEASE SEND THEM IN.

ALABAMA—"For as many years as I can remember, there has always been the cry in Alabama, 'There's gold in them thar hills'. Since I have become a rock hound, and one of the kind that likes to explore the legends around, I became interested in the legend of the gold of Alabama. After several years of research in old geological surveys and conversations with the older people in the various localities, I have compiled maps spotting some 50 abandoned gold mines and prospect pits and placer locations.

"I am enclosing one of the maps.

"I eventually hope to make small maps of the other minerals of Alabama to aid visiting rock hounds to our state."—letter from James Miller Davis, 211-212 Guaranty Savings Bldg., Montgomery, Ala.

The map received covers the Riddle's Mill Dist. (gold deposits) of Talladega County, Ala. It is 8½ x 11 and sells for $1, we believe.

ALASKA—"I am sending you a specimen for identification. There is quite a lot of it. It came from Granite Creek near Chickaloon, Alaska."—item sent in by John W. Dryden, Star Route, Palmer, Alaska.

The specimen is a pale grayish-green diopside. Tiny black spots on it are manganese oxide.

ARIZONA—"Recently R. W. Thomssen and the writer visited a corundum prospect in the Sacaton Mountains, 10 miles north of Casa Grande (Pinal Co.), Ariz. The corundum deposit is a small lens in granodiorite which has been prospected in several spots. The ore pile and waste dumps are readily collected upon although the deposit cannot be seen in place.

"Corundum occurs as radiating bladed crystals up to an inch or more in length and small tabular crystals were found in a pocket. The corundum is drab grey in color. Rutile is especially common with the corundum. It occurs as reddish brown to black anhedra up to half inch in length. The poorly formed crystals are stubby prisms."—Sid A. Williams, The Mineral Explorer for July-August, September, 1959, p. 1 (Quarterly Bulletin of the Mineral Exploration Society, P.O. Box 4981, University Sta., Tucson, Ariz.).

ARKANSAS—A beautiful polished slab of pale pinkish chalcedony was donated to R&M by the Millars, owners of the famous Crater of Diamonds, near Murfreesboro (Pike Co.), Ark. The chalcedony was found on the Crater of Diamonds property.

The Crater of Diamonds is the only genuine diamond crater in North America. It is a tourist attraction and opened year 'round, daily and Sunday.

CALIFORNIA — "After a lapse of over 3 years I want to be back on your subscription list. I had thought I was 'over' the intense interest in rocks, minerals, and geology, but it is a hobby that never loses its appeal.

"Just as a matter of local interest, several recent trips to Clear Creek, San Benito County, Calif., have shown that the jadeite boulders in the creek are still numerous, beautiful blue-green and very tough to crack for specimen-size pieces.

"I am sending you a chunk of jadeite for which Clear Creek is well known as the first locality for this mineral in North America, the discovery having been made public about 1950. Clear Creek, a tributary of the San Benito River, about in the center of Section 11, T17S, R 11E, Mount Diablo Meridian, Calif., in southeastern San Benito County. The town of Hollister is 80 miles northwest of the area, and Coalinga is about 40 miles southeast. Roads are very primitive, unimproved, and difficult, if not impassible for modern, low-slung, long-overhang automobiles. The country is (in my opinion) beautiful, in a wild, barren desolate way. Clear Creek flows through the heart of a region of serpentine, much of which is devoid of any vegetation, except for sparse forest of pine trees." —letter from Kenneth C. Brown, 314 Raymond Ave., San Jose, Calif.

A very nice specimen of blue-green jadeite from Clear Creek was received from Mr. Brown. It is 4x4x6 inches in size and weighs 7¼ lbs.

COLORADO—"In a USGS report of 1901 (Ransome) there is mentioned a unique form of sphalerite. It occurred 'abundantly' as reticulated masses of broken stalactites subsequently cemented by calcite. Some of the stalactites were an inch in diameter. For cabinet specimens the calcite was removed by acid, leaving the interstices clear.

"It was found in the Yellow Jacket mine on Bear Creek in northern San Juan County, Colorado. The mine was in a rather remote section of the county and was never worked much. It has not been worked for many years and is caved in now. But the dump is still there for the sturdy hiker."—item sent in by Pat Fancher, Box 63, Ouray, Colo.

CONNECTICUT — John Kuhhorn, Germantown, N. Y., has made several visits to the old abandoned Bristol Copper Mine near Bristol, Hartford Co., Conn. Two of his good finds were: bornite, as a nice tarnished dark blue ¼ inch thick mass in a quartz vein in gray granite that is full of small greenish malachite "grains"; and grayish, schistoze masses of talc.

DELAWARE—Brown jasper pebbles have been found on Bowers Beach, Kent Co., Del., by Bob and Hazel Reynolds, Stockdale Rd., Kingsville, Md.

FLORIDA—A 3x3 specimen of white cacholong opal (fl. pale yellow) coating gray botryoidal chalcedony was sent in by Mrs. H. E. Mallott, 325½ 41 St., North, St. Petersburg, Fla.

"Found on private property on Hillsborough Bay, in Tampa (Hillsborough Co.), Fla. Owner does not want name divulged."—on label.

GEORGIA—Colorless selenite xls occur in shale a short distance north of Cusseta, Chattahoochee Co., Ga.

IDAHO—A nice specimen of pale brown botryoidal chalcedony was recently sent us by Manuel T. Lee, 496 Morris Ave., Boonton, N. J.

"I found this specimen in 1957 in a cavity in a vein of plume agate at Graveyard Point in Owyhee Co., Idaho."—on label.

ILLINOIS—We need mineral notes on this state. Who will be the first to send one in?

INDIANA—Very nice milky quartz xls, some doubly terminated, have been found in geodes in Big Walnut Creek near Greencastle, Putnam Co., Ind.

IOWA—Brassy-yellow pyrite (some tarnished coppery red) occurs as veins in black limestone in an open field in Melrose, Monroe Co., Iowa. Found by Michael Papcum, RR 1, Melrose, Iowa.

KANSAS—John W. Gholson, 2155 S. Waco, Wichita 11, Kan., presented R&M with two very interesting dark brown marcasite nodules which he had found in shale near Gove, Gove Co., Kan.

KENTUCKY—"A deep road cut in Muldraugh Hill—on Highway 31-W, which goes through the reservation (Fort Knox, Hardin Co., Ky.), has some nice brown calcite xls in vugs. Some selenite xls which form a druse on what appears to be the side of a wall resulting from fracture—left after the cut was made can also be found though in small quantity."—note from Sfc. William J. Malarky, Clover Hill Gardens, Mt. Holly, N. J., who was stationed not long ago at Fort Knox.

LOUISIANA—A flat, white and pale brown banded chalcedony pebble was sent in by Jimmy Henderson, 1345 W. 10th St., Bogalusa, La.

"This specimen came from my dad's gravel pit on the outskirts of Bogalusa, (Washington Parish), La."—on label.

MAINE—"Enclosed are specimens of molybdenite I collected in July, 1953.

"The location, Route 191, Cooper (Washington Co.), Maine and the mine itself are described in the "Report of the State Geologist 1953-54, page 42."—item sent in by Olive E. Looney, Lincolnville, Me.

Three lustrous, platy xls of lead-gray molybdenite were received (each about ¾x¾ inches in size). They are the finest molybdenite xls we ever saw from Maine.

"From an old molybdenite mine, Route 191, Cooper, Maine."—on label.

MARYLAND—Quartz xls have been found in the soil at Foxville, Frederick Co., Md.

MASSACHUSETTS—"I am sending you a couple of specimens I would like you to identify. I guessed at one of them that it might be ankerite but this is just a plain guess, and the other specimen I did not venture a guess. These specimens were found in a small dump at an old talc mine (a very small one) in the town of Windsor, Berkshire Co., Mass. There is scarcely any material left there now as some collectors have taken most all of the pieces of talc but I found these different specimens by digging them out of a small mound of dirt.

"This location in Windsor is just over the line from the town of Cummington, Mass., at West Cummington in Hampshire County. I have heard them tell how they used to draw out the mineral with horses to deliver it to market.

"I think they also tried to mine copper at this location and I don't know which was the more important commercially, copper or talc at this mine. I found a few pieces with chalcopyrite in them. I don't think this place was ever very successful."—letter dated April 2, 1959, from Ernest H. Fisk, West Chesterfield, Mass.

One specimen received consisted of dark green radiated actinolite, dark green chlorite, and brownish (iron stained) xline calcite.

The other specimen consisted of dark green radiated actinolite and white xline calcite. Tiny grains of tarnished pyrite also present.

Both specimens are attractive.

MICHIGAN—"After reading about fulgurites in R&M, I am enclosing one from the Upper Peninsula of Michigan which I located one day after much wandering around in the rain."—item sent in by Carl F. Lemin, 624 E. Division St., Ishpeming, Mich.

A very nice 4" specimen ¾" in. diam. was received. The specimen is not fragile but thick walled, fairly heavy, and gray in color. It has an L-shape.

"The fulgurite was found in Marquette County, Michigan, about 10 miles north of Negaunee, near the Big Dead River. I dug up one fulgurite which was about two feet long and six inches wide."—on label.

MINNESOTA—"Herewith are 2 specimens from the north shore of Lake Superior.

"One is thomsonite in matrix, would like to know what the other is. It was

collected in a spot where others had been working, so presumably is something worth collecting—or is it?

"We were able to obtain a fair supply of the thomsonite in matrix and would like to know if any of your readers would know of a way to remove it from the matrix. Some of the thomsonite specimens are available for swapping, especially for agate or other lapidary specimens."—item sent in by Lee E. Payne, Rt. 1 (Eagle Lake), Willmar, Minn.

The pinkish-white thomsonite looks nice but how to remove it from the dark gray matrix (basalt) may be quite a problem and especially if it is frozen in the matrix. Sometimes when you break up the rock these little "kernels" of thomsonite may fall out. About the only thing you can do is to experiment and perhaps you could run across a method for freeing the thomsonite. Perhaps some of our readers may have a method or two—we would be delighted to hear of them.

The other specimen is a weathered thomsonite and of poor quality.

Both specimens come from near Grand Marais, Cook Co., Minn.

MISSISSIPPI—Lignite (brown coal) occurs around the town of Ackerman, in Choctaw Co., Miss.

MISSOURI—Good lustrous lead-gray cleavable masses of galena have come from Mine LaMotte lead mine at Fredericktown, Madison Co., Mo.

MONTANA—"Hyalite opal, from Hyalite Canyon, near Bozeman (Gallatin Co.), Mont., fl. a bright yellow when excited by short wave ultra-violet light."—item sent in by Gerald Navratil, Box 70, Middleburgh, N. Y., who has spent many summers in the northwest.

NEBRASKA—Richard Hedges, 5844 South St., Lincoln 6, Nebr., gave us this item, Monday, April 27, 1959:

"Last Labor Day, Monday, Sept. 1st, 1958, I found a 26 lb. Fairburn agate (reddish in color with some yellow banding). It was found near Sugarloaf Butte, about 10 miles north of Crawford, (Dawes Co.), Nebr., in the little Nebraska Badlands."

On Monday, April 27, 1959, the Editor of R&M was a guest of Mr. and Mrs. Hedges on an auto trip from Wichita, Kans., to Lincoln, Nebr. It was a most enjoyable trip even if it did rain most of the way but not enough to prevent us from making a few stops to examine mineral occurrences along the way.

Please send us some more notes on Nebraska minerals, Mr. Hedges, we need them for this column.

NEVADA—"Around the northwestern shore of Lahontan Reservoir (in western Churchill Co.), Nevada, I found petrified wood of all sizes, shapes and hues. One was a piece of ponderosa pine bark which by an unusual quirk of pseudomorphication retained the exact coloring it had when it was the bark of a ponderosa pine overlooking the receding Lahontan from a distant mountain top. Other pieces around were blackened or yellowed. This one specimen I donated to the Nevada State Museum in Carson City where it can now be seen."—item sent in by A/2C Lawrence E. Wright, 55 PMS, Box 119, Forbes AFB, Kans. Mr. Wright's home is in Carson City, Nev.

NEW HAMPSHIRE—"I am enclosing a crystal which I think is black tourmaline. Am I right? It, along with many others, was found in a rock with much mica. The rock weighed around 20 lbs. and was found on the road to Ruggles Mine, Grafton, Grafton Co., N. H."—item sent in by Mrs. W. S. Rhodes, Grafton, N. H.

Yes, it is a black tourmaline xl and a nice one. The silvery mica associated with it is muscovite.

NEW JERSEY — A very nice pale green xled specimen of pyroxene, var. diopside, (one ¾ inch xl of gem quality) has been sent in by John S. Albanese, P.O. Box 221, Union, N. J.

The locality for this fine specimen is Vernon, Sussex Co., N. J.

NEW MEXICO—Tiny, slender, purple xls of amethyst have been found in quartz geodes on the Baker Ranch, in Luna County, N. Mex., about 40 miles south of Deming.

NEW YORK—The following item was received recently from Sidney W. Poole, 1346 22nd St., N.W., Canton 9, Ohio:

"A visit to the famous Barton Garnet Mine on Gore Mountain in the Adirondack region (near North Creek, Warren Co., N. Y.), late last summer (1958) proved quite interesting, especially the view of the working face of this unusual hornblende-diorite formation with its conspicuously large garnets surrounded with black hornblende rims.

"I was fortunate in finding the contact metamorphic Grenville limestone area at Minerva Creek, near Olmstedville, Essex Co., N. Y., not far from the Barton Mine. This locality has been described in previous issues of R&M as a source of Vesuvianite (Nov.-Dec. 1948, p. 906) and Moonstone (Sept. - Oct., 1953, p. 451).

"While at this locality I was able to collect some representative specimens including calcite cleavages representing the metamorphosed Grenville limestone. Wollastonite was also found as pearly cleavages associated with calcite. Graphite was abundant in some of the calcite together with pyroxene. The latter mineral occurs as diopside and augite generally as small rounded grains, although the augite can form large rough, irregular crystals almost black in color.

"Some wernerite, white in color, associated with augite and calcite was found. The wernerite crystals were incomplete and not especially large.

"No doubt Mrs. Poole and myself accompanied by a real 'rockhound' in the form of a large English bulldog will visit some other mineral localities this summer."

NORTH CAROLINA—We are indebted to the Rev. Carl G. Mauney, Box 176, Avondale, N. C., for the following item:

"In the World News section of the March-April 1959, R&M, you quoted from a letter from Mr. R. D. Groves of Union Mills, North Carolina, in reference to a specimen of fuchsite and corundum. You followed this by a statement that the corundum 'is not fluorescent'. I obtained my first specimens of these minerals from Mr. Groves' farm some year and one-half or two years ago. Shortly thereafter Mr. and Mrs. Groves came to my house with other specimens. One of their main interests in coming was to see the fluorescent response of the corundum. Like all the pink and red corundum from North Carolina which I have observed, there is no response under the short wave (Mineralight). But under the long wave (Sylvania Blacklight) there is a beautiful, deep red fluorescence.

"I am not advertising for Mr. Groves. He doesn't know that this letter is being written. But anyone who is interested in long wave fluorescence would do well to get a specimen of this material."

Thank you, Rev. Mauney, for sending in this correction. We are glad to have it. It is only too evident that we failed to examine our specimen under the long wave. We want to see this fluorescence as it must be beautiful, but to our dismay the specimen cannot be found (has gotten mislaid) but we will run across it one of these days.

Quoting from p. 124, March-April 1959, R&M, in reference to this specimen sent by Mr. Groves of Union Mills, N. C.—

"The specimen received is truly a beautiful one consisting of lustrous bright green fuchsite and pinkish xliné corundum.

"Union Mills is in Rutherford County of S.W. North Carolina."

NORTH DAKOTA—"In a newly made road here, some very nice quartzite with drusy quartz xls are showing up. One has a cavity lined with sparkling xls, perfectly clear. The other layers are stained by the iron present."—

item sent in by Florence Newsom, Hurdsfield, N. D. Hurdsfield is in S.W. Wells County which is in Central North Dakota.

OHIO—"I am sending you some rocks from our area. Nos. 1 and 2 were turned up when we plowed our pasture here in Sharon Center."—letter received from Mrs. Jerry Stephens, Sharon Center, O.

No. 1—A gray chert.

No. 2—Brassy yellow pyrite in dark gray chert.

Sharon Center is in eastern Medina County in northern Ohio.

OKLAHOMA—"On the eastern shore of Lake Ponca are fossiliferous limestone outcrops. Near here are found earth-like balls, filled solidly with salmon-color barite."—item sent in by Mrs. Alton Horne, 308 Coolidge, Ponca City, Okla.

Lake Ponca in Kay Co., of Northern Oklahoma, is N.E. of Ponca City.

OREGON—Very nice brownish chalcedony has come from Central Point, Jackson Co., Ore.

PENNSYLVANIA—Nice rock xls have been found in the anthracite coal mines in and around Shamokin, Schuylkill Co., Penn.

RHODE ISLAND—Donald S. Wrathall, 47 Common St., Providence 8, R. I., sent in a long, illustrated clipping taken from the *Providence Evening Bulletin*, Thursday, March 19, 1959. The clipping covers the historic Cranston Graphite Mine, Cranston, Providence Co., R. I. This century-old mine has had its first fatal accident at mid-morning Thursday, March 19, 1959, due to a cave-in some 160 yards down its inclined shaft (only 60 feet below the surface). Victim of the accident was Lloyd Eddins, 23, of Providence, who was crushed to death by the falling rock; a fellow worker, Horace DeBealieu of Cranston, was partially buried in the rock-fall, managed to scramble free, but had to be hospitalized.

The mine was originally opened as a coal mine (anthracite—hard coal) but it was not a successful venture as the burning quality of the coal was always low. William Cullen Bryant, early 19th Century poet, was quoted as saying that if the world ever caught on fire, he would seek refuge in the deepest recesses of the Cranston coal mine (because the coal would not burn).

In later years, a corporation organized by the late Frederick S. Peck, financier and GOP boss in the 1920s, mined the hard-flinty coal for use in a pulverizing process by which the coal was mixed with oil and water and steamed and compressed into briquettes.

Present owners are Walter and Peter Kaine.

It is due to the large amount of graphite in the coal that the coal is practically useless as a fuel and the deposit for a number of years was mined for graphite, hence its name—Cranston Graphite Mine.

"Clipping enclosed on the Cranston Graphite Mine. We couldn't visit it on your trip here (see 'Touring Rhode Island', by Peter Zodac, Jan.-Feb. 1952, pp. 3-15) as it was shut down under the old management. Two new young fellows have since bought it and are trying to make a go of the graphite end of it. It's worked out fairly well so far. Don't know how long it will keep on. After this fatal accident, it may close for good."—note from Mr. Wrathall enclosed with clipping.

SOUTH CAROLINA—In Oconee County, S. C., near the head of Cheohee Creek, in an old lead mine, lead-gray xls of galena occur in quartz veins.

SOUTH DAKOTA—The following item was sent in by Allen's Minerals (James Allen), 322 W. 23rd St., So. Sioux City, Nebr.

"South Dakota, Union County State Park, about 12 miles south of Beresford on US 77. In the park, at the old dam,

in a cut are found excellent selenite xls, some 4" in length, one observed was 7½". These are clear, although some have inclusions of clay."

TENNESSEE—"Last summer (1958) Mr. Hayes, our two girls, Sharon Hayes and Gail Gunn, and I, took our vacation trip to the East. We did not have the time we would have liked to spend in collecting rocks but we did find one mineral occurrence which I believe your readers might find of interest. In visiting my husband's boyhood home at Bean Station, just east of Knoxville, Tenn., and north of Morristown, we took an afternoon off to go fishing. He sat on some rocks which had been used for fill between the water and the road which at this point was high above the water. As usual I was not catching any fish so I got to looking at the rocks all around me and wondering how there could be so much drab gray rock in the country and none of it any good from a collector's viewpoint. Upon thinking about it for a few minutes I decided that there just could not be that much rock and none of it any good, so I started looking for some good in it. So far, I had not moved from the rock on which I was sitting but was just looking around at the rocks nearby. Soon I was rewarded by seeing a small pocket in one rock, lined with a drusy pink substance. At this point I left my improvised 'chair' and went to work in earnest, completely forgetting my fishing pole and line which was still in the water. Soon I had a good sized pile of rocks ready to load in the car and each rock had several of the little pockets, many of which had beautiful needle-like crystals in them, others being lined with the drusy pink material. I have tentativly identified the needle crystals as natrolite but would like to hear from anyone who may have some of these rocks. Directions for finding the locality are as follows:

"Out of Knoxville, proceed in a northeasterly direction on US Highway 11W for 47 miles. This will take you along the northern side of Cherokee Lake to a point where highway 11W is intersected by US Highway 25E. Turn left on 25E and stop as soon as you can find a good place to pull off the road. The water we were fishing in is an arm of Cherokee Lake and the road leads from the intersection of the two highways up over Clinch Mountain. The fill is on the west side of the highway leading down to the edge of the water. The crystals are mostly clear and each one, while looking at first glance to be as sharp as a needle, has upon close inspection a flat tip which is characteristic of natrolite. In one pocket I found a beautiful sight. There were several sharp crystals radiating out in all directions from little pink balls so that the whole effect was of needles in a pink pincushion."

TEXAS—Black, needle-like tourmaline xls in massive smoky quartz have been found in the Coal Creek area of extreme N/E corner of Gillespie Co., Texas

UTAH—"About 5 miles north of Black Rock (Millard Co.), Utah, on Delta to Milford Road, take road east across the railroad tracks. Flowering obsidian may be found everywhere, but requires hunting. Pumice quarry in area." —Courtesy of Ken Stewart's Gem Shop, 37 South West Temple, Salt Lake City, Utah.

VERMONT—Small dark gray smoky quartz xls on massive quartz have been found in Canaan, Essex Co., Vt., by Milton E. Ailes, Box 36, West Danville, Vt.

VIRGINIA—Black masses of wolframite have been found in the tin deposits at Irish Creek, Rockbridge Co., Va.

WASHINGTON—Small xls of greenish beryl have been found in pegmatite near Fish Lake, Spokane Co., Wash.

WEST VIRGINIA—Some months ago Fran Schiller, Luke, Md., found some interesting brown, red and pink xline calcite on the top of a ridge 1 mile west of Keyser, Mineral Co., W. Va.

WISCONSIN—"These are found in a small area on the shore of Lake Michigan at Kenosha (Kenosha Co.), Wisc. Also in the sand and gravel that is dredged out of the lake at this same point."—item dated May 21, 1959, from Mrs. Abbie Strangberg, R.I. Box 334, Kenosha, Wisc.

The specimens received are very nice, rounded pebbles of pyrite, brassy-yellow in color but partially stained light brown by limonite. These are the nicest pyrite pebbles we ever saw.

WYOMING—John S. Albanese, P.O. Box 221, Union, N. J. sent in a nice 1x1 inch black xl of columbite.

"From Platt's Uranium Claim, Encampment (Carbon Co.), Wyo." on label.

ANDORRA—From Andorra, one of the world's smallest countries, lying between France and Spain, we have a dark grayish-black slab of slate that was sent us by Juan Montal, Plaza Sgdo. Corazon No. 1, Vilafranca del Panades, Spain.

"From La Massana, Andorra."—on label.

The locality is in the western part of the little country.

AUSTRALIA—Another fine specimen has been sent in by John S. Albanese, P.O. Box 221, Union, N. J. It consists of reddish-brown xline masses of huebnerite in a whitish feldspar.

"Huebnerite from Flaggy Creek, Torrington, N.S.W., Australia." on label.

BELGIAN CONGO—Some of the world's finest gem quality malachite, in large greenish banded masses, comes from the famous copper mines of the Katanga District, Belgian Congo, Africa.

CANADA—Fine blue fluorite is found at Plaster Cove, Richmond County, Nova Scotia, Canada.

KOREA—The following letter, dated March 15, 1959, was sent in by A/1C Ralph Wayman (home address Rt. 2, Box 18, Boulder, Colo.), from Korea.

"I have been in the Republic of Korea for nearly a year now and will be returning to the states next month. I would like to tell you a little about the mineral situation of South Korea.

"Around 113 different minerals have been found in Korea although over half of them have never been exploited. Included are molybdenum iron ores, mica, graphite, manganese, copper ores, chromium, nickel, lead, cobalt and vanadium.

"Crystalline schists underlie a large part of this mountainous land. Near the surface is a complex of granite gneiss and early Paleozoic and Proterozoic limetone and metamorphics. Carboniferous beds, consisting mostly of slates and conglomerates, are evident toward the southeast.

Cheju-do Island, 62 miles south of the mainland, is like the mainland, mountainous. Of volcanic origin, Mt. Halla (6,597 feet) was last reported active in 1007 A.D. Cheju-do is famous for its iridescent mother-of-pearls and diving girls.

"Tungsten ore is found in the form of scheelite and wolframite, in the Seoul area, and is an important part of the Korean economy.

"The uranium minerals of euxenite, brannerite, fergusonite, and some samarskite, are found in the gold-monazite placers of central Korea. Monazite has been produced from stream placer deposits, as a by-product of gold dredging.

"Beach deposits have been reported on the east coast. In central Korea beryl is found in pegmatites, while a high-quality anthracite coal is also mined.

"During my tour I have been stationed on the Sea of Japan and the Yellow Sea, both coasts. I have collected some sea shells and beach agate on the Sea of Japan. Near Pyong Taek I have found some spheroidal chunks of pure milky quartz. I also picked up some of the brain type coral which composes Wake Island in the Pacific Ocean."

SCOTLAND — Our good friend, Sandy Ramsay, 1015 Aikenhead Road, Kings Park, Glasgow S4, Scotland, who has been on the sick list for many weeks, is slowly recovering his good health and once again is devoting his attention to minerals. A recent arrival from him is a most interesting slab of dark gray lustrous mica schist containing a quartz vein full of tiny colorless kyanite xls.

"Kyanite in schist from Kiltality, 600 yards up Glen Urquhart, Inverness-shire, Scotland. Collected by Archie Forrest, 1351 Pollokshaws Road, Glasgow S1, Scotland."—on label.

SPAIN—An airmail letter, dated June 27, 1959, comes from Juan Montal, Plaza Sgdo. Corazon 1, Vilafranca del Panades, Spain.

"I just got back from a trip to western Spain visiting localities in that area. But I hope to be off again on another mineral trip, of four to five weeks duration, to visit localities that are new to me and in other sections of the country, and especially the interesting uranium deposits at Pedro Alvaro, Salamanca Province, Spain.

"My ads in R&M are bringing me so many good orders that they pay for the trips I make.

"Here is a note on danaite. It is found in silvery-white masses in veins in magnetite in a mine (worked now and then) at Burguillos del Cerro, Badajoz, Spain.

R&M Helps Build World-wide Collection!

Editor R&M:—

Enclosed is my subscription to ROCKS AND MINERALS for another year. It is such a help to an amateur collector that I could not have built my collection of minerals, ores, fossils, and sands in such a relative short time—less than ten years, had it not been for information on buying, trading, etc. obtained from ROCKS AND MINERALS.

I have more than 3,000 specimens in my collection from all over the world. When beginning, my first ambition was to secure a specimen from every state in the Union and Washington, D. C., which I finally accomplished. I then began to collect from every province and territory in Canada. After that there was no stopping. Then came Greenland, Iceland, Bermuda, the Bahamas, Haiti, Dominican Republic, Puerto Rico and Virgin Islands, with the Cuban government having sent me twenty-five—two inch specimens from Cuba and the Isle of Pines. I have also received from Jamaica, Trinidad and the Curacao Islands in the Caribbean. I have specimens from many of the states of Mexico, Central America, all countries of South America, and Europe except Bulgaria and Albania. I would appreciate assistance on these last two mentioned countries if any collector or dealer would care to do so.

I wondered how I could ever get a specimen from that very small country, Andorra—lying between France and Spain. Well, Juan Montal of Vilafranca del Panades, Spain, came up with the answer sending me a beautiful piece of siderite from that country.

I have not checked closely on Africa, Asia and Australia but do have many of their countries represented—well, most of them I am certain. Many islands lying off their shores and in the South Pacific are also represented in my collection ranging from Thule, Greenland and Point Barrow, Alaska on the north to Mt. Erebus at the South Pole.

I have named all the places just to show the possibilities of working with dealers, traders and other advertisers in ROCKS AND MINERALS for anyone interested in building a world-wide collection.

For the past two years I have had a display of about 500 of my choice specimens in our Public Library at the request of the Ohio State University Geology Department. They were admired and studied by thousands of school and college students together with other interested community citizens. They commented widely as to the scarcity, marvelous beauty, form, composition, and color and I spent many hours explaining and answering queries of the viewers.

I have been called upon to exhibit two or three hundred specimens at Various clubs, such as Exchange, Lions, Rotary, Kiwanis and Elks. Also Boy Scouts, church groups, Scouts and various others always talking about ROCKS AND MINERALS—my hobby. This pleasure has taken much of my time the past year.

L. F. Grashel
1702 Highland
Portsmouth, Ohio

THE MICRO - MOUNTER

Conducted by Neal Yedlin—129 Englewood Drive, New Haven, Conn.

One of the standard practices of the mineral collector is to take advantage of the fact that natrolite dissolves and forms a gel when soaked in dilute hydrochloric acid, and benitoite, neptunite and joaquinite do not. A specimen of white compact natrolite, with a few indications of the other minerals, is enhanced tremendously by this process,[1] and more and more of the minerals become visible. First will appear the *benitoite* and neptunite, and when almost all the natrolite is gone quite often beautiful microscopic honey-yellow xls of the mineral joaquinite are disclosed. These usually rest on the matrix, which was a tough blue natrolite-impregnated serpentine when the process was started, but is now a soft matted matrix, requiring careful handling until thoroughly dry.

The acid has a tendency to etch slightly the "p" faces of the benitoite but not the others, which remain bright and lustrous. While not ideal, the results are not too bad, and the specimen is still eminently satisfactory. The gel leaves a thin unsightly film on the faces of the neptunite prisms. Soaking in detergent eliminates most of this. Careful scraping with a razor blade (under the scope) usually cleans them, too. We uncovered some old specimens in our collection and decided to utilize this process to turn up some joaquinite. The proper steps were taken, the material cleaned and the results observed under the binocular. Something new appeared. Several grey metallic xls, seemingly hexagonal bi-pyramidal in form with basal pinacoids, rested on the matrix. Shown to Dr. George Switzer and Paul E. Desautels of the U.S. National Museum (Smithsonian) it was determined that an X-Ray analysis was in order. One xl was sacrificed, and the Smithsonion apparatus was put to work. The resulting photograph identified the mineral - DIGENITE. (Isometric, probably pseudomorphic after a pseudo-hexagonal orthorhombic xl of chalcocite.)

Digenite has never been noted as an associate of the natrolite - neptunite - benitoite - joaquinite minerals, nor has it previously been reported from San Benito Co., California. Credit the find to the collecting of micromounts. We strongly urge re-examination of your material from this area; especially the portions thick with small neptunite xls.

We've recently received letters from many beginners who want to know what m/ms are, how they are made, and other fundamentals. We have been conducting this column almost continuously since 1948, and during that time practically all phases of the hobby have been discussed. We suggest you purchase (for 50 cents) Dr. Wills fine article "The Preparation of Micro Mounts", a reprint from a 1931 issue of *Rock and Minerals*. The publication is available either from *Rocks and Minerals*, or from the Baltimore Mineral Society. It is quite complete.

However, from time to time we will review some of the basics, with the hope that collectors new to the hobby will profit thereby.

DEFINITION: A mirco-mount is any natural mineral,[2] permanently mounted,

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1 *Soak the specimen for several hours in a solution of HCl and water (one part acid to five of water). Then rinse the gel from the specimen, using a gentle brush if necessary. Repeat the process, using fresh solution until satisfied. When done, rinse, soak in detergent for an hour or so, rinse again and let dry.*

2 *We will discuss subsequently whether naturally formed minerals from synthetic or man made materials qualify. In this category are the oxychlorides from anciently processed lead slags at Laurium, Greece; minerals recently formed on the walls of mines; melanterite and* other *sulphates, and perhaps some of the carbonates lining lead pipes after many years of use.*

requiring magnification for proper viewing.

This description is general. It permits the widest application of the art, yet confines the specimen to distinct limits.

PERMANENTLY MOUNTED: The specimen may be mounted in a box, on a wheel, or revolving pegs. In fact, any method that affixes the specimen to a reasonably permanent base, permitting viewing and storing without handling the mineral itself.

The presently popular method is to mount the specimen (if necessary) on a pedestal of balsa wood, cork, glass, etc., shaped and painted a dull black, so that the stand does not show. Fasten to the interior of a box with a cover. Currently in vogue are clear plastic boxes, 7/8" x 7/8" x 3/4" high, or Lobell's product, 1"x 1"x3/4" high. Older collections (including our own) are mounted in black cardboard boxes, 1-1/8"x7/8"x5/8" high (Rakestraws) or square ones 1"x1"x5/8" (Brooklyn, N. Y. type). The collector may take his choice. The plastic mounts are obtainable today, with the smaller box by far the most popular. The paper box went out with World War II, for it was impossible to obtain them at a reasonable price, and plastic became available.

The interior of the box is blackened, either by the insertion of paper liners, furnished by the distributor, or by painting with a flat black enamel (not lacquer). The cover is left clear. Labels giving (as a minimum) name and locality of the mineral are affixed to the box.

MAGNIFICATION: The ideal instrument for viewing is a stereo-binocular microscope, giving three dimensional effect. The range should be from about 8X to 36X. Lower and higher limits are useful, but not absolutely necessary. Thousands of specimens can be collected to be viewed within this range. We rarely deviate from a 20X magnification.

However some specimens are best viewed at 4X or 6X. Some of the mineral clubs have set 10X as a minimum for their competitions. Who shall say that they are right and others are wrong? Where do xls fit in that are too small for normal vision, but too large for 10X magnification? "Thumb nail" Collections? No, for these are but small cabinet, or hand specimens, and the xls should not require enlarging.

Now, to jump to the other side of the fence. Any organization has the right to set its own rules, and to require that a contestant comply with them as a condition precedent to his entering a competition. If you collect in order to exhibit at shows then you must conform to the requirements of the organization running the show. The American Federation has attempted to standardize competitions in the shows sponsored by its members. Well and good! Uniformity makes for fewer disappointments and differences of opinion. It has been pointed out that a collector, traveling from show to show, and wishing to enter various competitions, is best served if a general uniformity is prevalent, and he conforms to the standards previously established. With this we can find no fault. If your purpose is competition then by all means conform. If your major interest, however, is collecting and study, then carry it out any way you choose.

THE SPECIMEN: What constitutes a good specimen is a matter of personal taste and judgment. However, there are certain basic essentials. Clean, sharp unbroken xls, either isolated or on matrix. Size is unimportant. Perfection is paramount. One perfect xl on a matrix containing many broken ones might best be removed and mounted individually. It is our own preference to show perfect xls on matrix, thus exhibiting the parangenesis of the mineral and its natural "habitat". This cannot always be done. We have perhaps 40 mounts of individual diamonds. We have mounts of individual boracite xls (to show fully their form) as well as boracite in matrix (to show occurrence). But one thought should be borne uppermost. Perfection.

THE SAND COLLECTOR

CONDUCTED BY PETER ZODAC
PEEKSKILL, N.Y.

Granite sand from Sacramento, Calif.

From Sacramento Co., Calif., we have an interesting sand that was sent in by Chas. S. Knowlton, 143 N. Acacia, Fullerton, Calif. It is a medium grained, gray sand. The sand consists of black biotite, white feldspar, and quartz (colorless to smoky) with a small amount of black magnetite. Tiny fragments of gray granite containing the four minerals also present.

"A friend who likes to visit historic places brought me this sand from close to the base of the marker of the California State Park Marker in Sacramento and it is supposed to be the actual location of Sutter's Mill where Marshall found the gold."—on label.

The sand comes from the city of Sacramento, Sacramento Co., Calif.

Creek sand from Cresco, Iowa

From a creek near Cresco, Howard Co., Iowa, we have a sand sample that was sent in by an anonoymous reader. The sample is a coarse, gray sand consisting chiefly of quartz (colorless, smoky) with some gray feldspar.

"Sand from creek running into Turkey River near Cresco, Iowa."—on label.

Quartz sand from Minneapolis, Kans.

From Glen E. Kiser, the famous sand collector from Douglass, Kans., we have an interesting sand which he had personally collected. The sample is a fine grained, brown sand consisting entirely of brown quartz.

"From U.S. Highway 81, northeast of Minneapolis (Ottawa Co.), Kans."—on label.

River sand from Covington, La.

Ken Kyte, P.O. Box 161, Covington, La., sent in this sample which is a fine grained, cream colored sand consisting entirely of quartz (colorless, smoky, milky.)

"From Bogue Falaya River, Covington (St. Tammany Parish), La."—on label.

Zircon sand from Sandwich, Mass.

"I am enclosing some sand that I picked up after a storm at the east end of the Cape Cod Canal at Sandwich Beach (Barnstable Co.), Mass. The wind had blown the lighter materials away and left this sand in riffles. I have looked at the sand with a microscope and found it quite interesting. I would like you to see it and verify the content.

"We read R&M and enjoy it very much. My wife and I rockhound around Norway and Paris, Me."—letter from Edgar C. Nickerson, RFD, Buzzards Bay, Mass.

The sample is a fine grained, dark red sand. It consists of pinkish garnet with smaller amounts of colorless zircon (fl. orange), black magnetite, and colorless to smoky quartz.

River sand from Las Cruces, N. Mex.

"The enclosed sand was found in a dry river bed in the vicinity of Las Cruces (Dona Ana Co.), N. Mex. A friend of mine said that the yellow flakes in it were mica or fool's gold. Was he correct?"—note from Bruce Schuerman, Gen. Del., Las Cruces, N. Mex.

Yes, your friend was correct. The yellow flakes are mica (tarnished biotite).

The sample is a coarse grained, light brown sand, It consists of smoky quartz, black biotite (much of it tarnished to a golden color), feldspar (reddish, flesh colored, white), and black magnetite with small amounts of silvery muscovite and a tiny amount of green gemmy epidote.

Sandstone sand from Livingston, N. Y.

Near Livingston, Columbia Co., N. Y., bordering the east edge of U.S. 9, is a large sand and gravel pit operated by F. H. Stickles & Son. The conductor of this department stopped at the pit one day and collected a sample of the sand which is coarse grained, dark gray and consists chiefly of dark gray sandstone—a little dark gray slate and quartz (smoky, milky and reddish) also present.

The large pit is just 6 miles north of the Columbia-Dutchess County line or 1 mile south of Livingston.

Dune sand from Nags Head, N. C.

Again we have to thank an anonymous reader for a most interesting sample of dune sand that is medium grained and brownish in color. The sand is all quartz (brownish and smoky).

"From Jockey's Ridge, Nags Head, Dare Co., N. C. The 'Golden Dunes of Dare' are the largest on the Atlantic coast. Jockey's Ridge is the longest range of these, moving slowly southward, borne by the prevailing winds. The sand is from the very summit of the tallest hill of this ridge."—on label.

Purple sand from Norman, Okla.

Did you ever see purple sand? Well we have a sample and it was sent in by the Midwest's most famous sand collector, Glen E. Kiser, Douglass, Kans.

The sample is a fine grained, purplish sand consisting entirely of purplish quartz (quartz stained by purplish clay.)

"From Highway 99—15 miles east of Norman (Cleveland Co.), Okla. Barite balls found here also."—on label.

River sand from Sauk City, Wisc.

From the east bank of the Wisconsin River, in the extreme N.W. corner of Dane County, Wisc., we have a sand sample which the conductor of this department personally collected a few years ago. The sample is a coarse grained, dark brown sand. The sand consists almost entirely of brown quartz (light to dark brown) with a small amount of red jasper and a tiny amount of black magnetite.

The Wisconsin River, about half mile wide, is crossed here by a bridge on US 12; on the west bank is Sauk City in Sauk County, the Sauk-Dane County line is at the west end of the bridge.

Slate sand from Andorra

Andorra is one of the world's smallest republics. The little country is situated between Spain and France. From the Gran Valira River in Andorra, we have a sand sample that was collected for us by Juan Montal, Plaza Sgdo. Corazon 1, Vilafranca del Panades, Spain.

The sample is a coarse grained, dark gray sand. It consists chiefly of black slate with small amounts of black biotite, black magnetite, silvery muscovite, quartz (smoky, milky, brownish), gray granite and black mica schist.

"Sand from the Gran Valira River, 1000 meters south of the city of Andorra, Andorra, Right edge of river."—on label.

Olivine sand from Bonin Islands

The Bonins consist of 27 islands with a total area of 30 square miles. The two main islands are Chichi Jima and Haha Jima. The Bonins lie in the Pacific Ocean, about 1,000 miles southeast of Tokyo, Japan, and belong to Japan.

From Chichi Island (Jima is the Japanese word for island) we have a sand sample that was sent us by W. L. Roberts, 628 Harter Dr., Rapid City, S. D. The sample is a fine grained, dark green sand consisting chiefly of gemmy, green olivine with a small amount of white sea shells.

River sand from Orleans, France

Mr. and Mrs. Edward Biondi, Box 43, Hammond, N. Y., sent in this sample which they personally collected when Mr. Biondi was in the air force stationed in France.

The sample is a coarse grained, gray

sand. It consists chiefly of gray chalcedony, clear to smoky quartz, and a tiny amount of dull black magnetite, silvery-white muscovite, and white river shells.

"From Loire River at Orleans, France, near birthplace of Joan of Arc."—on label.

Beach sand from La Romana, Dominican Republic

La Romana is a city on the southern shore of the Dominican Republic which occupies the eastern end of the large island of Haiti in the Caribbean Sea. From the beach at La Romana we have a sand sample that was sent in by Edwin Davidson, La Romana Corp., La Romana, Dominican Republic.

The sample is a coarse grained, dark brown sand consisting of quartz (colorless, milky, smoky, black basanite, brown to gray chalcedony, brown jasper), quartzite (black, gray, red), white sea shells, and a tiny amount of dull black magnetite.

"Seashore sand collected at the mouth of Rio Chavon, near La Romana, Dominican Republic."—on lable.

Zircon sand from Summit, Canal Zone

The Canal Zone is a 10-mile wide strip of land surrounding the Panama Canal, land-leased by the Republic of Panama to the U.S. Government and under its jurisdiction. From a small creek near Summit, C. Z., we have a sand sample that was sent in by Frank Wagner, Box 1486, Balboa, Canal Zone.

The sample is a fine grained, black sand. It consists chiefly of black lustrous ilmenite, with small amounts of lustrous black magnetite, colorless zircon (fl. orange), and a very small amount of green olivine.

"Sand comes from Coco Creek (a small creek) near Summit on the Gamboa Road in the Canal Zone."—on label.

Beach sand from Laufuti, Samoa Islands

Tau is a large island in the Pacific Ocean lying 18 miles east of Tutuila (American Samoa). Both islands belong to the U.S. From the southern shore of Tau, at Laufuti, we have a sample of beach sand that was sent in by Max Haleck, Pago Pago, Tutuila, American Samoa.

The sample is a black and white medium grained sand consisting of gemmy green to dark opaque olivine, black magnetite, white sea shells and black basalt.

Beach sand from Islay Island, Scotland

Islay is the most westerly as well as the largest island of the Southern Hebrides, being 30 miles long by 24 broad. It closely adjoins the island of Jura, separated only by the Sound of Islay, a narrow strait lined by precipitous cliffs. From Port Charlotte in the western part of Islay (on the west shore of Loch Andail, an arm of the North Channel) we have a sand sample that was sent us by Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland.

The sample is a fine grained, gray sand consisting entirely of quartz (chiefly colorless but smoky and brownish also present).

"Beach sand from Port Charlotte, Islay Island, Scotland."—on label.

When sending sands or notes for this department please send as much information as possible on each locality. The more information you give the more interesting is this department.

COLLECTORS CORNER

The Collectors Corner does not appear in this issue due to the many complaints received against it. As one subscriber informs us:

"I have written to almost every name on a recent list and not one has answered me. If people do not want to answer letters, why do they want their names to appear in this list?

All letters received carry sinilar complaints—the writers received few if any answers to their letters. We'll suspend this feature for the time being—perhaps readers may have some suggestions for its reappearance.

WOMEN'S CORNER OF R & M

Conducted by Winnie Bourne

c/o Rocks and Minerals

Box 29, Peekskill, N. Y.

FEMALE ROCKHOUND

In the June issue of *The Rockhounder,* the official journal of the Whittier Gem and Mineral Society (P.O. Box 66, Whittier, Calif.), I spotted an interesting item titled "Female Rockhound", by Bruce Buell. It fits us women and so deserves to be brought to the attention of our female readers. The item is as follows:

"FEMALE ROCKHOUND. These are members of the opposite sex who, having grown weary of belonging to the rockhound-widow class, have abandoned that group. Bravely donning levis, gloves, shirts, and billed caps, and with pick in hand, they follow the rugged footsteps of their mates. During the week this species is usually feminine and helpless, but on week-ends—oh boy!"

And we women find good minerals, too and we carry them back to the cars—all by ourselves. Please give us credit for that, Mr. Buell.

Winnie

SOME PEOPLE CAN BE SO CUSSED!

Here is a letter recently received whose contents really hurts.

Dear Winnie:

I recently "lost" a very fine fire opal and a perfectly beautiful, perfect quartz crystal from my own collection. The monetary value was not great but the fire opal belonged to my father who died in '36 and it made me sick to think anyone could be so cussed and take it. Now I won't let anyone look at my collection unless I'm sitting right beside them. And I hate not being able to trust anyone.

Betty McCarty
5824 E. 12th St.
Kansas City 26, Mo.

I am sorry to hear about your loss, Betty and I sympathize with you. It makes one feel sick to know that a visitor cannot be trusted. From now on keep your specimens in a locked cabinet and never open it unless you can be present at all times. Let us hope and pray that from now on everything will be safe and accounted for in your collection.—

Winnie

JUST LIKE A WOMAN!

Have you spotted the intensely interesting and fascinating item in World News (under Tennessee) in this issue? If not, turn to it now and read it, then come back here. The item was written by Effie Hayes of 932 Claremont Ave., Pueblo, Colo. A condensed version of the item is as follows:

While on an eastern trip with her husband and family, they stopped off to do some fishing in a lake northeast of Knoxville, Tenn. The spot selected for fishing was in an area that was full of drab gray rock—of no interest to a mineral collector. No matter where Mrs. Hayes looked, this drab gray rock stretched in all directions and it seemed to annoy her. While fishing, her mind was more on minerals and the enormous mass of this drab gray rock annoyed her so much that she could not restrain herself—she decided that there just could not be that much rock and none of it any good from a collector's viewpoint. So she started to look for something good in the rock and, lo and behold! she found it—pockets in the rock full of beautiful needle-like natrolite crystals!

A male collector would have given the rocks a look of disgust and never waste

any time on them. But not our Effie—she sees good in everything, even in dull, drab, unattractive gray rocks.

Winnie

OH, MY ACHIN' BACK

Dear Winnie:

On page 211 of R&M, May-June 1959, under World News (Connecticut), the information sent in by Harvey Bailey, Plainville Ave., Unionville, Conn., is the UNDER-STATEMENT OF THE YEAR!

We went to Roxbury, Conn., this morning (June 14th), kits, lunch and enthusiasm all with us. We found a "road". And did we find garnets! Oh, my achin' back! We brought home a large quantity of garnets, each of us, and we didn't even make a dent in the millions and miles of them. Like the man said, they range in size from ¼ inch in diameter up to one inch and more.

Just this information and the fun we had today was well worth the subscription price of R&M.

Elizabeth Andrews Fisher
Office of the Toy Trader
2112 Middlefield St.
Middletown, Conn.

ROCK FEVER

You've got rocks in your head, my husband said,
As he carried my knapsack all loaded with rocks.
He grumbled and snorted as my loot I sorted.
And put each one in a separate box.
But one day he found, right there on the ground,
A beautiful agate all shiny and round.
So he borrowed my pick and he dug and he dug
Till he unearthed a crystal all snug in a vug
Oh, he had 'rock fever' and he had it bad.
It's a serious thing, but, Gee, was I glad?
For he built me a tumbler and bought me a saw—
But who gets to use them? You guessed it, it's Pa!

Betty McCarty
June 1959

Please, ladies, send us some notes for this department. Even short ones are welcome—Winnie.

The East's deepest cut in New Jersey

Alfred Devito, 59 Scheerer Ave., Newark 12, N. J., in his letter dated Aug. 10, 1959, sends in the following item, taken from the NEWARK NEWS (Newark, N. J.), of August 4, 1959.

"Dynamite explodes in giant cut being dug for Rt. 22 through Jugtown Mountain, Warren County, N. J. The 120 foot cut, deepest in the East makes it the largest earth moving job done by the State Hiway Department."

Mr. Devito made a visit to the locality and his observations are as follows:

"I examined the area 4 days later and found several cuts. The locality is West Portal, about 6 miles west of Clinton and one-half mile south of the old Hiway, Hunterdon County.

"The western exposures are in a Cambro-Ordovician limestone containing much chert and massive quartz.

"The more extensive and interesting eastern cuts were made in the lower Pre-Cambrian rocks. These seem to be mixtures of granite and gneiss.

"The gneiss is composed of microcline, quartz, hornblende, biotite and much magnetite. Very large masses of rock show the magnetite with limonite, arranged in a brecciated pattern with microcline. Serpentine and massive pyrite are also common here.

"The granite, probably the Pompton granite, is composed of a coarse mixture of pink microcline, white quartz and green epidote, contrasting very nicely. Small fluorescent zircon xls and xline masses of black hornblende are commonly found in the granite. Small almandite xls and actinolite were found, although scarce.

"Walking back to the car, I noticed a small pocket opening in an intimate mixture of the granite and gneiss. Breaking it open I was surprised to find good sized stilbite aggregates in their indicative cauliflower-sheaf like form. They are stained with limonite and accompanied by small heulandite xls and prehnite. The matrix contains pyrite and epidote in addition to the rock."

THE AMATEUR LAPIDARY

Conducted by Captain George W. Owens
Hq. Sq. 384th Bombardment Wing, Little Rock Air Force Base, Jacksonville, Ark.

Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all

Amber

Amber has been known to man and used by him since earliest antiquity. It is a "stone" with a wealth of history and most interesting background. We amateurs have a hard time locating rough but can locate finished pieces which readily lend themselves to reworking. It is included in a few mineralogical classifications yet it is not a true mineral. Amber is the altered resin of ancient trees, thus it is really a fossil resin. The most important of these resins have been named succinite, simetite, burmite, roumanite, and gedanite. Since it is not a true mineral, its composition varies to a great extent. Colors found are: pale yellow to dark brown, whitish, greenish, bluish, and red. Very rare is a true red or blue. There are many varieties of names for amber such as: Chinese, silicin, foamy, cloudy, clear, mine or pit, and sea—nearly all describing a location or source, rather than a distinct type.

Amber is highly prized in some sections of the Orient (Korea in particular) and brings a much higher price than is possible here. I have seen two amber balls, which were about the size of large grapes, sell for the equivalent of more than $80. Such pieces could not command more than $10 or $12 on our market.

Working amber is entirely different than cutting stone of agate or jade and such. Tools more resemble wood-working equipment and techniques are also much the same as used for wood. Amber is only 2-2½ in hardness at its best and so can be treated in several ways . The main methods used by professional amber cutters is to use the natural form as much as possible to achieve small and even large objects of art. Pieces that are not suitable for such are "diced" into cubes for bead making or cabochons.

Tools needed to complete a project in amber are:

One jeweler's or coping saw
One small flat file
One small triangle file
Several bits of fine sandpaper
A chamois skin or piece of felt
One cake of Bon Ami or some cerium oxide.

Sanding is accomplished by using fine (400)-grit paper and water. The following method has been successfully used to obtain a good luster:

Using speed-wet 400 paper lightly sand all surfaces—well worn paper gives best results; use copious amounts of water and use only slight pressure. Wrapping the paper around matches will allow sanding of grooves, etc. When all surfaces have been sanded, sprinkle a bit of cerium oxide on a wet chamois skin and start rubbing, using only moderate pressure. A fine luster will soon appear. (Bon Ami may be substituted for the cerium oxide.) A wet match stick slipped in polish powder will polish the grooves or indented areas. Patience and time are all that are required to achieve a fine luster. After polishing is completed, wash thoroughly in cold water and buff again on the wet chamois skin without using any polish, which seems to highlight the luster. In blocking and shaping, ordinary tools are used and only the artist's desires and talents are limiting factors to his achieving masterpieces of art. In my collection are two amber flies and a beautiful dragon relief work. The flies are extremely old, dating from the late

Koryu period. The relief work is also very old, being either late Koryu or early Yi. It is readily apparent that the artist had definite ideas in his composition and succeeded in his desires. This is one media that will let you give full expression to your desire for constructive art work. It readily works into such forms as rings, bracelets, beads, earrings, brooches, pendants, carvings, plaques, in fact, just about anything you can conceive can be executed in amber.

Amber, like gold, is where you find it. It has been found in various places (Virginia and Arizona, etc.) in the United States. It is extensively mined along the Baltic Sea and is found in Sicily, Burma, and elsewhere, perhaps the most important being the sea recovery and mines in Germany.

Amber is amorphous and found in sizes ranging from small bits of a gram or less to lumps of many pounds. It is sometimes recovered in layered blocks or lumps which readily break along such layers.

Amber, like most other gem material, has been subject to many forms of substitutes, perhaps the most common (at least the most successful of the imitations) was to take filings and bits of true amber, heat and compress them into blocks. Unfortunately such tactics only lowered the value of true amber. Such "amber" tends to lack the toughness of the original and also darkens more readily. Amber is also represented in the synthetic line by various plastic substances. In rare cases, citrine quartz has been taken for amber but a hardness test would immediately separate these. Incidentally, most imitation amber will sink in a saturated solution of plain salt water while amber will float. Insects, seeds, and bits of weed which occur in genuine amber are often imitated in substitutes and so the presence of such does not mean that the piece is genuine amber. Only recently I was called on to determine the authenticity of three such pieces. One had a small insect included and had been prepared as a cabochon type stone, while the other two were supposedly bits of rough with one area polished as a "window;" both had very real and lifelike large insects inside. Unfortunately, only the cabochon was real amber. The other two were very clever duplicates or imitations made of celluloid. (Celluloid, when heated, gives an odor of camphor and its SG and RI are greater than amber.) So, in buying such specimens for your own collection it would be advisable to exercise caution and to know your dealer.

If your dealer guarantees the authenticity, in 99 cases out of 100 it is the real McCoy as most dealers take pride in their product and their reputation. Mr. George Bruce of International Import Co., 128 N. Parkwood Drive, Forest Park, Ga., may be able to supply you with both a bit of rough amber and a reasonably priced stone. His collections of rare stones and fine examples of the cutter's art are top grade and his prices are within reach. Ask for his current list, which will be sent free. It would be appreciated if when writing, you tell him you saw his name in this column.

For those who do not desire to have a general collection, amber would make an ideal single collection item. It has been made into many objects of art and jewelry as well as religious objects. It is sufficiently hard to find to make for interesting searching and each piece would be an achievement as well as a welcome addition to the collection. Amber can be and has been found in such diversified places as second-hand furniture stores, junk shops, rock shops, jewelry stores, and rummage sales. So why not don your Sherlock Holmes cap and start looking? I have yet to see a single collection made exclusively of amber and know of none. Who knows, you could readily become the outstanding authority in these United States on this subject. The field is open to you. You need not be a millionaire or even a big city fellow to become an authority. So why not start today?

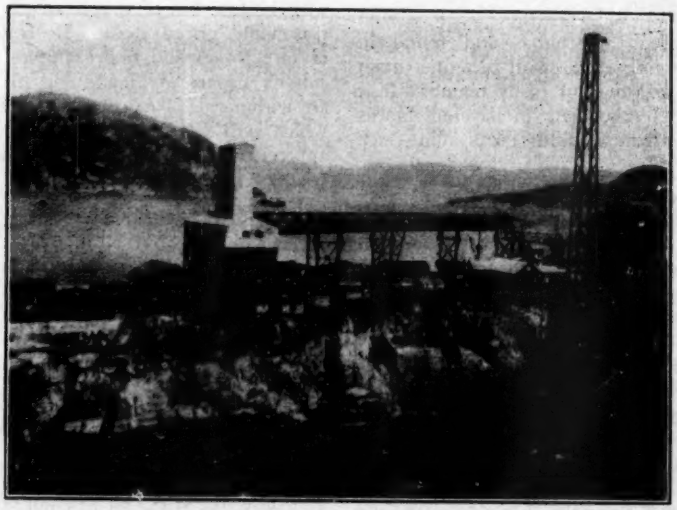
Amber is so easy to work that there is really no excuse for any of us not to have at least one specimen in our collections that is the product of our own

work. If you will look again at the list of materials needed, you will find that most of them are present in your house right now. So let us all try producing one stone of amber this month. Everyone write your favorite dealer for a bit of rough and let us add one amber stone to our collection. How many of us have a bit of amber? There are seven amber pieces in my collection but I am going to take my own advice and add another this month. How about you?

For you folks going on vacation in North Carolina this summer, be sure to stop and see Floyd Wilson's Rock Shop at Micaville, N. C. Floyd will go out of his way to make you feel at home. He has some mighty nice specimens and he may just have a bit of amber.

If you are lucky enough to have one of those old fashioned muzzle loading or percussion Civil War-type pistols you can trade it to me for fine faceted stones or amber. Since moving into larger quarters I need something to help cover the bare walls!

If you should happen to find a reliable source for rough amber please let us know and we will print it here so we all can benefit.



CRYOLITE MINE, IVIGTUT, GREENLAND

The world's only cryolite mine is at Ivigtut in southern Greenland. The mine is a huge pit and worked only during the summer.

Ivigtut is quite a famous locality for minerals as over 25 different species occur in the mine, perhaps the two most frequently seen by collectors are white cryolite with brown siderite.

Fossil Department

Short items on fossils and their localities are wanted.
Please send them to the
Fossil Department (Rocks and Minerals), Box 29, Peekskill, N. Y.

GEORGIA—Fossil shark teeth have been found in Douglas, Coffee Co., Ga.

KENTUCKY—"While stationed at Fort Knox (Hardin Co.), Ky., I made a trip through Elizabethtown toward Leitchfield in Edmundson County. Just before reaching Leitchfield (travelling westward) I entered a small town(or village) by the name of Clarkson. Here a sign said "Grayson Springs"—pointing a little southward—distance about 3 miles. So, I went to Grayson Springs, which wasn't too fascinating to me. However in a road cut, just a short number of feet from the springs, I found two interesting fossils. They were embedded in interbedded sandstone and limestone. One was a nearly perfect fossil of Archimedes (Devil's Corkscrew), a spiralling type of Bryozoa, and one very excellent Pentremite, a Blastoidea, both of the Mississippian."—item sent in by Sfc. William J. Malarkey, Clover Hill Gardens, Apt. 34-C, Mt. Holly, N. J.

MISSISSIPPI—In the March-April 1957 R&M, P. 130, mention was made of some large dark gray calcified oysters, 3x4 inches, weight 1 lb. and over, found by J. S. Locke, 39-48th St., Gulfport, Miss. The oysters were found embedded in a bluish clay in Hinds County, Miss. Part of the item reads:

"I have several hundred of them but the exact locality where they are found is hard to explain as it is not near any particular town. Draw a line from Taylorsville (Hinds County, as there are two Taylorsville) Miss. to Lakeland, Miss., and on the west bank of Pearl River on this line is the locality. This is in southeast Hinds County.'

Another note from Mr. Locke reads:

"I have traced them to their source and am finding some beautiful specimens. Have a piece of bone with two small oysters attached.

"A geologist to whom specimens were sent reported that a strontium/calcium/phosphate analysis show these calcified oysters date back about 85 million years to the late upper Cretaceous and appear to have had a long life from the growth patterns of the shell."

NEBRASKA—Some months ago Mrs. Robert Cook, Callaway, Nebr., sent in a clipping relative to a fossil find made in a gravel pit near Kearney, Buffalo Co., Nebr. The clipping reads:

"Workmen operating a gravel pump at a pit near here discovered the machine blocked by an interesting object, the Kearney Hub reported. The object, a dinosaur tooth nearly a foot long, was pumped up from a depth of 40 feet. Judging from its size, it was believed the tooth came from the jaws of a full-grown dinosaur."

NEW YORK—George Yellott, Peekskill, N. Y., who was having some property bulldozed near Maple and Croton Avenues, near Peekskill, Westchester Co., N. Y., spotted an interesting dark brown boulder in the bulldozed material. The boulder was picked up and later given to the conductor of this department. The specimen is 3x4 inches in size, weighs, 1 lb. and is a dark brown fossilized chert—the fossils are corals. The find was made June 2, 1959.

NORTH CAROLINA—"I am a subscriber of R&M and have been a rockhound for about 7 years. I have four glass cases of minerals, an identification desk, specific gravity table and books and identification tools and chemi-

cals. I also have many friends who bring me minerals from most anywhere. But I do have my problems. I live in the coastal plains of North Carolina, an area where there are almost no rocks (neither on the surface or in the soil) and because of this there are no fellow rockhounds within 30-50 miles of me, that I know of. I am a lonely rockhound!

"There is a very good fossil collecting area near me. This is the Cliffs of the Neuse State Park. I have collected many fossils there and also in the stream beds in the vicinity. This is very well worth while noting in R&M as a fossil collecting area.'—item sent in by Thomas W. Carroll, 101 Chestnut St., Mt. Olive, N. C.

The Cliffs of the Neuse State Park are in Wayne County, N. C., 15 miles southeast of Goldsboro off N.C. Highway 111 and almost equidistant between Kinston and Mt. Olive.

OKLAHOMA—"A limited number of fossil shell geodes have been found in the limestone outcrops on the east edge of Lake Ponca, which is N. E. of Ponca City. I think the shells are pelecypods, they are lined inside with calcite xls."—item sent in by Mrs. Alton Horne, 208 Coolidge, Ponca City, Okla.

Lake Ponca in Kay County of northern Oklahoma, is N.E. of Ponca City.

VIRGINIA—"Received your nice letter in reference to the Fossil Department in R&M and sure hope you can get this feature going. I would be very happy to get a few of my Fossil Friends in different parts of the country to submit for this department.

"As for my experiences in this field, I have made many interesting finds and would be glad to submit a few reports for your consideration.

"Recently I had occasion to be near the cliffs on the Wakefield Plantation, the birthplace of George Washington in Westmoreland County, Va., and decided to investigate the cliffs for fossils. While there I ran into a rockhound searching for pebbles. Before I left I had his children searching for fossils and the old man even picked up a few shark teeth.

"While searching the cliffs I came across some excellent Carcharodon shark teeth and was fortunate enough to find an excellent inner ear bone of a fossil whale in the cliffs. This was the third time in twelve years of collecting that I had found one in the cliffs so you might imagine the thrill. On this same trip I found a two foot section of a monstrous whalt rib. I dug it out but it was so crumbly that it had to be reinforced with plaster when it got dry. It is the largest I have ever seen.'—letter dated June 1, 1959 from Frank D. Eastham, Warsaw, Va.

The Wakefield Plantation is in Wakefield in eastern Virginia.

WEST VIRGINIA—Fossils are common in most of the creek beds near Keyser, Mineral Co., W. Va.—mostly conularid gastropods from the Silurian period."—item sent in by Fran Schiller, Luke, Md.

WASHINGTON—"I am mailing you two fossils and a map showing where I found them. As I am new at this game I have no idea of identification or if a collector would be interested. The road where I found the fossils is very crooked and my time was very limited—had about 15 minutes to collect. There was 4¼ miles of this crooked (snaky road) and the whole stretch looks like good fossil hunting ground."—item sent in by Mrs. Inez Rogers, P.O. Box 184, Oakridge, Ore.

The fossils received are small white clam shells in dark gray shaly rock. The locality is near the N.W. tip of Challam County, of N.W. Washington.

NOTICE—We need items for this department. Please send them in with full localities or as complete as possible.

Attention Eastern Federation Clubs.

If you have reports on the activities of your club, do not send them to R&M—send them to Mrs. Elsie Kane White, 3418 Flannery Lane, Baltimore 7, Md. Mrs. White is the Current Events Editor which handles all reports of the Eastern Federation.

POLISHING . NEW . MATERIALS

BY ROBERT KISSICK
7140 Theodore Place, St. Louis 20, Mo.

In a separate box I am sending five polished pieces of materials that I have never heard of being polished before or have seen them being offered for sale as such. I think that all five have possibilities along these lines. I would appreciate it if you would publish the article below for the benefit of those readers who would like to try polishing something new to add to their collections—Robert Kissick.

I am always on the lookout for something new in the way of cutting materials to add to my collection. When I see something that is new to me being offered by one of the dealers advertising in R&M, I generally make it a point to order it and try my hand at putting a polish on it. Sometimes I succeed with a fair polish and sometimes I don't. I use only one method and that is cerium oxide on a felt buff so on those I don't succeed it doesn't necessarily mean they can't be polished by another method.

On my eastern trip, summer before last, I picked up some of the purple and lavender colored hexagonite from Fowler, N. Y. I had never heard of this material being polished but on picking out several solid looking masses with good color I decided to give it a try. I was able to get a fair polish on it but not quite all to be desired. However, the stone which combines the purple color of amethyst with spangles in it that reflect the light like aventurine, certainly was worth all the time spent on it. When cut in thin slices it makes beautiful purplish-red transparencies.

Recently I ordered some minerals from one of the dealers in California. Looking the bunch over I decided that six of them were worth giving a try at polishing. I had never seen any of them being offered as cutting material or heard of anyone trying to polish them. On four I succeeded in getting a pretty fair polish and was well pleased with the results.

The four specimens were—first, piedmontite from Pilar, Taos County, New Mexico. This took a pretty good polish and has a very unusual color combination—red spots of piedmontite in a pink and gray matrix. Also from New Mexico was purplish-blue spurrite from Tres Hermanas in Luna County. This is a solid material that has good color and polishes nicely. Another stone with an unusual color combination, one which I have never seen duplicated in another stone just quite like it, is stichtite, from Kaasphe Hoop, Transvaal, South Africa. The stichtite is a purple raspberry-red color with spots of black serpentine in it. It took a fair polish but unfortunately the stichtite undercuts the serpentine a little, at least by my methods. It still makes an attractive and unusually colored polished stone, at least in my estimation.

The last stone I tried was petalite from Varutrask, Sweden. This took a good polish and has a chatoyancy in it, somewhat like moonstone or feldspar. It is a light gray in color, translucent, and has a hardness of six.

The other two, pale blue allophane and grass-green annabergite, I found too soft to get a good polish by my methods.

Editor's note:—Five polished specimens of the above were received of which three are slabs—hexagonite from Fowler, N. Y.; piedmontite from Pilar, New Mexico, and spurrite from Tres Hermanas, New Mexico;—the other two are cabochons of petalite from Varutrask, Sweden, & stichtite from Kaasphe Hoop, Transvaal. The workmanship and polishing is very good and Mr. Kissick should be proud of his work. We never saw any of these minerals before that had a polished surface and Mr. Kissick's efforts is a good example how an inquisitive collector can add beauty and charm to many minerals that are overlooked or neglected by the lapidary.

CURRENT EVENTS

of the

EASTERN FEDERATION OF MINERALOGICAL AND LAPIDARY SOCIETIES

PRESIDENT	VICE-PRESIDENT	
Sam Brown 40 Northview Ave. Upper Montclair, N. J.	Mrs. James M. Dearborn 146 Lincoln St. Newton Highlands 61, Mass.	
TREASURER	**EDITOR**	**SECRETARY**
Dr. George F. Size Box 236 Murphy, N. C.	Mrs. Elsie Kane White 3418 Flannery Lane Baltimore 7, Md.	Roy E. Clark Box 607 Newport News, Va.

Sam Brown, of Upper Montclair, N. J., was elected President of the Eastern Federation of Mineralogical and Lapidary Societies at its annual meeting held in Boston on July 17. Mr. Brown is a past president of the Newark Lapidary Society, treasurer of the Newark Mineralogical Society and former treasurer of the Federation.

Mrs. James M. Dearborn (Grace D.) was elected Vice-President, having served as General Chairman of the 1959 convention and show. She is a past president of the Boston Mineral Club, which was the host society. Dr. George F. Size became treasurer. He is past vice-president of the Federation and member of the Tri-State Rockhounders of N. C. Roy E. Clark, of the Gem and Mineral Society of the Virginia Peninsula, is serving a second year of his term, as Secretary.

Miss Florence C. Hight of the Monmouth Gem and Mineral Club was reappointed Historian, a post she has held throughout the Federation's existence. Mrs. Marguerite R. Collyer of the Rockland County Gem and Mineral Society remains as Chairman of the Education and Program Aids Committee, and Mrs. Elsie Kane White, immediate past president of the Federation, was reappointed Editor of Current Events. Rev. James W. Skehan, S.J. Phd., vice-chairman of 1959 show, is Emblem Chairman. Other appointments will be announced at a later date.

1959 Convention

The 9th annual convention, gem and mineral show of the Federation, was opened on Thursday, July 16, for 3 days period, at the Sheraton-Plaza Hotel in Boston, Mass., with the City of Boston honoring the occasion with a formal breakfast for 100 guests in honor of the Federation President, Mrs. Elsie Kane White presenting her with a miniature Paul Revere sterling bowl. The general chairman, Mrs. Dearborn, was presented with a similar bowl. Then the Hon. John Brown, with the television cameras grinding and cameras flashing, cut the ribbon officially opening the show to the public. The Boston Mineral Club, of which W. Everett Berry is president, was the host society.

A record attendance registered each day of the show, the first of its kind ever held in New England, with visitors coming from as far as Barcelona, Spain.

Special features included an exhibit from Harvard University of fine xlized and wire gold from the famed Burrage collection; other displays of New England included tourmalines of the Hamlin collection, from Maine; aquamarine from Maine and New Hampshire; golden beryl from New Hampshire and Connecticut; apatite crystal from Maine and topaz from Maine. There was probably the largest faceted amethyst in the U.S., 435 g. from Brazil, shown by Hugh Alex Ford, of New York, with a fine cut blue topaz from the Ural Mountains weighing 300 carats. There were fine Uruguayan agates from the Bigelow collection, never on public display before; rare phosphates of N. E., bermanite, strunzite, frondelite, brazilianite, hurlbutite, etc. The Museum of Science of Boston had an audience participating exhibit of radioactive minerals. Press the button—see what happens. There were quartz xls from Herkimer Co., N. Y., John Steel Mine, Ontario, Canada and Hot Springs, Arkansas, by Don Hurley, of Little Falls, N. Y. Fine beryl from New Hampshire, site of convention field trip, and azurite from Bisbee by Mrs. Whitehead of New Hampshire. Dr. Fred Pough exhibited new and rare minerals named after members of the Mineralogical Club of New York and Paul Yaffe of Baltimore exhibited enlarged transparencies of micromounts. Elmer Rowley of Glens Falls, N. Y., showed some fine crystals and Armand Plante, of So. Barre, Mass., displayed fluorites and cut stones of New England.

Competitive displays of member societies and individual members included cut and polished gems, hand-made jewelry with mounted stones, transparencies, various types of minerals , geode sections, fossils, polished slabs, rough gemstone materials and micromounts. All exhibits were excellent with definite increase in quality and display arrangements.

Speakers for first day of show included Dr. Judith Frondel, U.S. Geological Survey, whose subject was Gems of Organic Origin, illustrated with kodachromes; Rev. Daniel Linehan, S.J. of Weston and Boston College, who spoke on Antarctica, illustrated with colored slides, taken with the American Contingent of the International Geo. Year in Antarctica, and Dr. Fred Pough, who showed slides and discussed various mineral locations in Europe. There was also a coke party for juniors, with a trip to the Boston Commons and rides in the swan boats. On the second day of the show, Leila Wolfson showed colored slides of beautiful museum specimens and Ella J. Bird of Smith Patterson fame spoke on Birthstones on Parade, illustrated by a famous collection of gems. Rev. Daniel Linehan's talk was repeated. Dr. Clifford Frondel, Professor of Mineralogy and Curator of the Mineralogical Museum at Harvard University, was the banquet speaker, his subject being "Relation Between the Amateur and Professional Mineralogist." Fred Layman of Harvard, who will also teach mineralogy and geo-chemistry at Bryn Mawr, Pa., next year, showed kodachrome slides and spoke on Unusual Crystal Specimens, on Saturday.

Dealers with offerings for almost every phase of the earth science hobbies included J. B. Hagstoz and Son of Philadelphia, M. W. Avery of New Jersey, Earl B. and Peggy Hart of Silver Spring, Md., R. W. Berry of Oklahoma City, Blacklight Eastern Corporation of New York, the Lost Cave Mineral Shop of Hellertown, Pa., Joseph I. Touchette, Inc., of Bethesda, Md., Harry L. Woodruff of Washington, D. C., Rocks and Minerals Magazine of Peekskill, N. Y., Thurstons of Mass., S. Schweitzer of New York, Mrs. Norman Huber of Lancaster, Pa., Schortmann's Minerals of Mass., Haag's Minerals of Arizona, Ernest W. Beissinger of Pittsburgh, Pa., Earl T. Williams of Baltimore, Md., North Eastern Guild of the American Gem Society of Mass., Mineral Equipment Company, Harry Wain, of Connecticut, International Gem Corporation of New York City, 20th Century Prospector, W. E. Brown, of California, Natural Gem and Mineral Company, H. Irving Stringer, of Mass., Henry B. Graves of Miami, Fla., Rock Haven Mineral Company, Everett E. Raether Jr. and Sr., of New Hampshire, Gem Tree of Indiana, Joseph P. Stachura, of Mass., Wilson's Rock Shop of N. C., The Martins of Ann Arbor, Michigan, Fort Shufford Mineral Shop (The Medds) of Arden, N. C., M. Seidman of Jamaica, N. Y., Lor Lew, of North Haven, Conn., and Fluorescent House of Branford, Connecticut.

On Sunday, July 20, a trip was made to the Mineralogical Museum at Harvard University, conducted by Dr. Clifford Frondel, its curator.

On Monday, the 21st the Keene Mineral Club, assisting the host society, led a field trip to Alstead, New Hampshire, approximately 90 miles from Boston, to a beryl mine, which had been freshly bull-dozed awaiting the collectors. On the way a stop was made at the Monadnock Mineral Shop for a rest and to pick up "nose bag" lunches. An excellent location, a quantity of beryl and smoky quartz, with various other minerals were collected. Huge beryl crystals jutted out of the mine walls, over a foot long and half as wide, some too tightly embedded to chisel out in an afternoon, but they offered a good drooling session; but one determined collector at least conquered one of these big ones at departure time. The party then returned to Keene where a barbecue supper awaited.

Ralph H. Jacobs of the Bellows Falls Mineral Club, of Vermont, took charge from here, and on Tuesday led the group northward along Route 5 and the Connecticut River to Gassetts, Vermont, to pan gold, stopping on the way at the Carlton, Vt., talc mine. Associated minerals, talc and some serpentine were collected here. The gold panning spot was about 5 miles up a country road. Shortly after arrival the miner who originally had the mine there opened, ventured to the stream bank and stood watching the group scooping up gravel and shaking it in gold pans, pie pans, fry pans, improvised pans from aluminum foil and auto hub caps. He was astounded, said he'd never seen such a sight, but pulled on his boots and began showing the best spots of shale to dig out. Then he volunteered to take the panners to another spot, more productive, about eight miles away. There was plenty of "pay dirt" there, with gold flakes showing up in nearly every pan. This was just too good to last, so shortly after arrival a severe thunder storm struck, drenching nearly everyone, as there were only lovely hemlocks for shelter. That evening was spent in and around White River Junction by most of the field trippers, who met Ralph Jacobs the next morning, this time on behalf of the Springfield Mineralogical Society, to be led from Pampanossuc westward on Route 132 to a copper mine. Here chalcopyrite was found, some kyanite and other minerals. A huge load of drilled cores, showing hornblende and garnet, were found and found their way into rock sacks, too. Next on the agenda was the invitation from the Pine Tree Gem and Mineral Association in Maine. While the rockhounds were beginning to tire at this point and many had to return home, a goodly number headed for Maine. A slight misunderstanding on dates resulted in two trips in Maine; the first to the Newry mines, which had been arranged for Wednesday. Some were there in time for this, and with the aid of a jeep reached this location about a mile up the mountain to hunt for tourmaline, both black and watermelon colored. The second trip was to the Black Mountain on Thursday, July 23. Mrs. Freda Thomas, Secretary of this society, corraled all comers. Early arrivals were fortunate enough to get a jeep

ride up this mountain; others hiked the mile to the top where the mines are located. Something must be said for the beauty of his spot, looking across a lovely valley to another peak, the White Mountain, the top of which is reputed to be all pegmatite. Lovely lavender and gray lepidolite was collected here—including crystals and various other minerals, and tourmaline, pink and green and black.

Before leaving Maine some travelled the few extra miles to the home of Mrs. Freda Thomas, to swap a few rocks and view the Swift River flowing before her door, where this society planned its annual Rockhound Roundup for the weekend of August 1st and 2nd, for gold panning and rock hunting.

Thus ended the 1959 convention of the Eastern Federation, declared by many to be among the very best. Sincere thanks goes to the host society, the Boston Mineral Club and the societies who gave a hand on the field trip end; the Keene Mineral Club, who also supplied souvenir cards with mineral samples; the Bellows Falls Mineral Society members, the Pine Tree Gem & Mineral Association, and the Springfield Mineral Club. With gratitude to all who gave their time and efforts to make this such a memorable event, happy hearts can now begin to dream of the tenth anniversary convention for 1960.

Winners in 1959 Competition

TROPHIES

Best in Show—Mineral Div.—
Carlton Davis, Boston Mineral Club, with almost complete lead collection.

Best in Show—Lapidary Div.—
Victor Pribil, New York Mineralogical Club, Inc., for faceted stones.

John M. Wise Membership Participation—
Miami Mineral and Gem Society.

Junior Division

Best in Show—Mineral Div.—
Chippy Clark, Gem & Mineral Society of Virginia Peninsula, for thumbnails.

Best in Show—Lapidary Div.—
Randy Stockton, Gemcrafters of Miami, faceted stones.

CLUBS

Mineral Division

M-1 Cabinet Specimens:
1st —Newark Mineralogical Society, Inc.
2nd—North Jersey Mineralogical Society.
3rd—Rockland County Mineral and Gem Society.

M-4 One Locality Group: Ctf. of Merit—
Lapidary and Gem Society of New York. (No competition).

M-7 Fluorescent Specimens; Ctf. of Merit—
Gem and Mineral Society of Virginia Peninsula. (no competition).

M-8 Oddities: Ctf. of Merit—
Gem and Mineral Society of Virginia Peninsula (no competition).

LAPIDARY DIVISION

L-1 Cabochons & Baroques:
1st—Gem & Lapidary Society of Washington, D. C.
2nd—Rockland County Mineral & Gem Society.
3rd—Gemcutters Guild of Baltimore, Inc.

L-2 Faceted Stones:
1st—Lapidary & Gem Society of New York.
2nd—Gemcrafters of Miami.
3rd—Gem & Mineral Society of the Virginia Peninsula.

L-3 Hand-Made Jewelry with Mounted Stones:
1st—Louisville Craftsman's Guild.
2nd—Tuscarora Lapidary Society.
3rd—Gem & Mineral Soc. of Virginia Peninsula.

L-4 Polished Slabs:
1st—Monmouth Mineral and Gem Club.
2nd—Gemcutters Guild of Baltimore, Inc.

L-5 Geode Sections (Polished): Ctf. of Merit Gemcrafters of Miami - very special quality and variety (no competition).

L-6 Spheres :
1st—Rockland County Mineral and Gem Society.
2nd—Monmouth Mineral and Gem Club.
3rd—Gem & Lapidary Society of Washington, D. C.

L-7 Book Ends, Desk Sets, Etc.:
1st—Gem & Lapidary Society of Washington, D. C.
2nd—Gem & Mineral Society of Virginia Peninsula.

INDEPENDENT

Mineral Division

M-2 Crystals, single or twin; (without matrix)
1st—Elmer Rowley, Capital District Mineral Club, Inc.
2nd—Paul Seel, Mineralogical Society of Pennsylvania.

M-3 Family Groups:
1st—Carlton Davis, Boston Mineral Club.
2nd—Michael F. Kidzus, Newark Mineralogical Society, Inc.
3rd—Gertrude Bryant, Keene Mineral Club.

M-5 Thumbnail Specimens:
1st—Mrs. George F. Size, Tri-State Rockhounders, N. C.
2nd—Paul Seel, Mineralogical Society of Pennsylvania.

M-6 Micromounts:
1st—Paul Yaffe, Baltimore Mineral Society.
2nd—Paul Seel, Mineralogical Society of Pennsylvania.

M-8 Fossils:
1st—Rozaline K. Johnson,-Gem & Mineral Society of Virginia Peninsula.
2nd—Margaret N. Israel,-Gem & Mineral Society of Virginia Peninsual.
Ctf. of Merit—M. Rushlau, Omaha, Neb. special exhibit, non competitive.

M-9 Oddities: Ctf. of Merit—
Miss Pearless Forrester, Worcester Mineral Club (no competition).

Junior

M-1 Cabinet Specimens: (General)
1st—Chippy Clark, Gem & Mineral Society of Virginia Peninsula.
2nd—Beverly Anderson, Gem & Mineral Society of Virginia Peninsula.
3rd—Charles Schmidt, Gem & Mineral Soc. of Virginia Peninsula.

M-2 Crystals, single or twin: (without matrix)-
1st—Peyton Clark, Gem & Mineral Soc. of Virginia Peninsula.
2nd—Edward Ellis, Gem & Mineral Soc. of Virginia Peninsula.

M-5 Thumbnail Specimens.
1st—Chippy Clark, Gem & Mineral Soc. of Virginia Peninsula.
2nd—Tommy Size, Tri-State Rockhounders, N. C.

M-8 Fossils:
1st—Lauritz W. Olson, Gem & Mineral Soc.-iety of Virginia Peninsula.
2nd—Kathy Allison, Gem & Mineral Society of Virginia Peninsula.
3rd—Madelene Murphy, Boston Mineral Club.

M-10 Others: Ctf. of Merit—
Helmut Ehrenspeck, Boston Mineral Club (no competition).

Lapidary Division

L-1 Cabochons & Baroques:
1st—T. A. Schultz, Gem & Mineral Society of Washington, D. C.
2nd—Miss Catherine Muffoletto, Gem Cutters Guild of Baltimore.
3rd—Dr. George F. Size, Tri-State Rockhounders, N. C.

L-2 Faceted Stones:
Special recognition for outstanding exhibit of skill, minerals used and range of mineral types, eg. barite—(Best in Show trophy).
Victor Pribil, New York Mineralogical Club, Inc. (no competition).

L-4 Polished Slabs:
1st—Ctf. of Merit—Miss Catherine Muffoletto, Gem Cutters Guild of Baltimore (no competition).

L-7 Book Ends, Desk Sets, Etc.:
1st—Miss Catherine Muffoletto, Gem Cutters Guild of Baltimore.
2nd—Leah Manack, Gem & Mineral Soc. of Va. Peninsula.
3rd—Rozaline K. Johnson, Gem & Mineral Soc. of Va. Peninsula.

Junior

L-1 Cabochons & Baroques:
1st—Gene Pederson, Miami Mineral and Gem Society.
2nd—Joe Carr, Tuscarora Lapidary Society.

L-2 Faceted Stones:
1st—Randy Stockton, Gemcrafters of Miami.
2nd—Steve Jenkins, Gemcrafters of Miami.

L-3 Hand Made Jewelry with Mounted Stones:
Ctf. of Merit—Joe Carr, Tuscarora Lapidary Society (no competition).

L-8 Transparencies: Ctf. of Merit—
Helmut Ehrenspeck, Boston Mineral Club (no competition).

WHAT GOES WITH OUR CLUBS

The Huntsville Gem and Mineral Society of Huntsville, Alabama, newly formed, became a full fledged member of the Eastern Federation at its annual business meeting on July 17 at Boston. A hearty welcome to this group with best wishes for success. Frank M. Stewart, 3307 Hutchens Avenue, is its first president. At a recent meeting they viewed a very fine fluorscent mineral exhibition by Mr. J. W. Smith, and later held a famiły outting and field trip to fossil collecting area near Guntersville.

The Gem and Lapidary Society of Washington, D. C., Inc. and the *Mineralogical Society of the District of Columbia* joined forces to put on a show on June 13 in the Chevy Chase Recreation Centre, in Maryland. It is reported a huge success, with fine attendance from the public and many members exhibiting. Displays included cabochons and faceted stones, hand-made mountings, jewelry, rough gemstone materials and minerals. Capt. John Sinkankas, President of the mineral group, showed a whole table of specimens, many from Pala, including a huge gem citrine. Tony Bonnano, president of the lap society, exhibited a lab of identification instruments, identifying stones for visitors throughout the show, as well as an educational display of the quartz family minerals, jade and its substitutes and a gamut of synthetics. A micro-mount set-up was shown by Phil Cosminsky and Harry L. Woodruff displayed the gem microscope he invented. Jack Bedrosian gave a most interesting lecture on diamonds, from mine to store.

The *Miami Mineral and Gem Society* scheduled Cal Callaway, of Ocala, for June to talk on Florida Minerals. They were also busy collecting entries from every member for 100% membership participation for their entry at Boston to win the John M. Wise Membership Participation trophy for the 3rd time, in federation shows. They won it. It is now their permanent possession.

The Georgia Mineral Society viewed beautiful transparencies of many semi-precious minerals made by Mr. W. B. Pitts, obtained by Sam Cronheim, with comments by Dr. James G. Lester. Field trip for this month, June, was

to old verde antique quarry to look for serpentine in blocks which contain chromite in grains and stringers, pure apple-green talc, hydroxyl apatite and magnesite in veins. In July they planned to visit two iron ore mines to collect gem quality goethite and many variations of iridescent limonite, also iron offils of shells, wood, etc., some chalcedony, hematite near Preston. In August they planned to attend the Hiawassee Fair; then hunt ruby corundum in this area. Their gem club had Frank Gleason for a return visit in July to tell about more gem material locations in Georgia, and in August Gilbert W. Withers was scheduled to talk on The Rocky Road and tell of the strange and humorous experiences that befall a commercial mineral dealer and importer.

From June 29 thru August 22nd a series of displays of gems and gem materials was planned at the Atlanta downtown library; the first two weeks display to be crystals and massive gem materials from all over the world; the second, Georgia materials and cut stones; the third, a graphic exhibits of the steps in cutting cabochons and faceted stones, and the final display cut stones and jewelry.

The Baltimore Mineral Society sponsored their third annual national micromounting symposium on September 12 and 13, in the William Lemmel Junior High School. First day's program included Dr. Isidore Adler, U. S. Geological Survey, whose theme was The Use of X-Rays in the Identification of Minerals; Slide program, third in a series produced by H. A. Greene, entitled The Isometric System; Dr. Edwin Roedder, U. S. Geological Survey, on Fluid Inclusions in the Study of Crystals. The second day (morning session) had Paul E. Desautels, U. S. National Museum, on Aberations, Distortions, Twinning, etc. in Microcrystals; Dr. Arthur Montgomery, Lafayette College, subject to be announced. Afternoon session included a panel discussion on Persons, Places and Things, Micro-mineralogically speaking with Neal Yedlin, Lou Perloff and others. Workshop throughout meeting, with a contest on identification of a set of "unknown" micros, and prizes.

The Gem Cutters Guild of Baltimore held a swap and trade night with gab fest in June, plus a discussion on Obsidian, conducted by Glenn Adriance, program chairman. Field trip in June was to Cecil County, Md., where special permission was granted to collect williamsite. Due to Boston convention no meeting or field trip was held in July, and August was devoted to convention reports, the business meeting, show in general and field trips.

The Maryland Lapidary Club, of Baltimore, announce a 10-lecture program they are sponsoring at the Smithsonian Institution, in Washington, D. C., one a month beginning on Saturday, September 19. Paul E. Desautels of the U. S. National Museum will be the lecturer. Subjects to be announced later. Members of federation societies are cordially invited to participate. There will be a very small fee for each one. They will begin at 11:30 A.M. in a room assigned by the Smithsonion, and continue until 2 P.M., with exception of 1st and 3rd, which will terminate at 1:30 P.M. Dates are Sept. 19, Oct., 17, Nov. 21, Dec. 19; in 1960, Jan. 16, Feb. 20, Mar. 19, Apr. 16, May 21 and June 18. Program for their own club will include courses of instruction, with the president, John W. Greene, teaching faceting and former president, Mrs. C. Genevieve Harris instructing in jewelry making.

The Boston Mineral Club, in addition to working on federation convention had Mr. Raj Verma, from New Delhi, India, for their June meeting, pinpointing Gems from India and showing beautiful colored slides of minerals now owned by Harvard. Mr. Verma is working for a doctorate degree at Harvard. Field trip in June was to Chandler's Mills Mine in Newport, N. H., where pyrite, brazilianite, beryl, amblygonite, graftonite, lazulite, apatite, hurlbutite, zircon, quartz and augite have been found.

The Newark Mineralogical Society reports their 255th meeting in June highlighted by an excellent talk on The Beloved Rockhound by John W. Donahey, General Manager of Public Relations and Advertising for the Foote Mineral Company of Philadelphia. Dr. David Mitchell, of the same company, a metallurgist by profession, explained the technics of mineral dressing. A beautiful sound and color movie "A hole to Dig" presented the extensive mining operations of this company, important in the field of lithium and its compounds. As this was also Ladies Day, some unusual specimens of feminine members had a place of honor in the display case. They report with regret the death of Fred A. Henze, their librarian, a very active member since December 1951.

The Queens Mineral Society held their annual dinner on Monday, May 25, at the YMCA in Jamaica, N. Y., with 37 members and guests. Dave Hammer, the president, acting as toastmaster, presented awards to Al Green and Curt Segeler for their outstanding services to the club. Mr. W. Helbig also received an award as the oldest active member, and Lou Roth was congratulated for his excellent management of the dinner. Bill Brooks was guest speaker and displayed two beautiful pieces of black tourmaline, one 5 inches and the other 6 inches long. Curt Segeler reported two of his students completed his course, and thanked Al Green for preparing them so well with his elementary course. Victor Pribil was congratulated on his election as president of the New York Mineralogical Club, and showed color films of the Enchanted Valley and the Giant Redwood of California, with another on the Grand Tetons. Paleontology was announced as subject for the June meeting. Thus a most enjoyable evening came to a close.

The Rockland County Mineral and Gem Society of New York, prior to taking their competitive display to Boston, had it on exhibit in the Savings and Loan Association at Kingston, attracting so much attention an article was requested on it by the local newspaper, which member Robert Baker supplied. Then the Orange County Fair at Middletown, N. Y., invited them to display their minerals at the fair from August 8 to 16th.

The Mineralogical Society of Pennsylvania report 173 members and friends present on Sunday June 14 when they were guests of the Gault Brothers at the Keystone Trap Rock Quarry, at Cornog, Pa. Finds at this location included blue quartz, milky and smoky quartz, pyrrhotite, calcite, hornblende, biotite, chlorite, garnet, feldspar, gypsum (small crystals), limonite, brown tourmaline (bravite). pyrite, byssolite, galena and zoisite. In July they visited the Cedar Hill Quarry in Fulton Township in Lancaster County, where permission was granted for entrance from 1 to 5 P.M. While it rained slightly the early part of the afternoon, collectors found many minerals, including brucite, picrolite, talc, calcite, magnesite, hydromagnesite, ilmenite, aragonite, deweylite among the most outstanding specimens. There was some williamsite, but it was scarce.

Hyalite was found and a green mineral being identified. For August a trip was scheduled to the New Jersey Zinc Company near Friedensville, Pa. Here all collectors were to sign release and observe strict rules on danger zones, and not enter any other time than between Noon and 5 P.M. of this day.

(All Federation news should be sent Current Event's Editor, Mrs. Elsie Kane White, 3418 Flannery Lane Baltimore 7, Md., but subscriptions should go direct to Rocks and Minerals).

EASTERN FEDERATION HISTORY

By Florence C. Hight

Our mineralogical conventions divide their activities into two major and perhaps two minor parts, which latter are the field trip and convention banquet. The chief portions of the conventions are devoted to competitive exhibits of mineral specimens and amateur lapidary work arranged by member societies; —and the commercial displays made by mineral dealers whose specimen material is sought by collectors to augment their cabinets.

The competitive displays are judged anonymously, and this year for the first time, the convention awarded a handsome trophy to the society winning the highest number of points. To its slight embarrassment but to its great joy, one of the host societies, the North Jersey Mineralogical Club, won the trophy, taking three first places and one 2nd place.

The prize winning mineral display showed 100 minerals from the Franklin, N. J. zinc district. It won its points for the best group from one locality. A feature of the display was a block model of the zinc deposit built up from its actual minerals, the Pochuck Gneiss, the Franklin limestone and the zinc veins. This was made by William Pfeiffer who arranged the display and spaced the mineral specimens to appear to be coming down from the mine. Since the Franklin deposits contain about 160 different minerals, some of which are microscopic, the Paterson society's assemblage attracted much attention.

The lapidary display accounted for the rest of the points gained by the North Jersey Society; first place for cabochons and baroque stones; first place for handmade jewelry set with mounted stones; second place for handmade rings. This entire display was the work of Mrs. Graham Rendell except for some half-dozen pieces of jewelry made by Mr. Aitken.

Mrs. Rendell does not use a tumble-drum to make baroque gems but shapes them in free-form on ordinary lapidary wheels; she also does her own jewelry designing and works in both gold and silver with equal skill.

The District of Columbia Mineralogical Society won 1st. place for micromounts, and 1st. for general attractiveness of its minerals. This display was centered by a museum-size specimen from a new find of apophyllite and prehnite at Centerville, Va., near Bull Run.

The Washington Society displayed its minerals in a step arrangement and used mostly large and showy specimens. Noted among them were epidote from Alaska, quartz from Korea and single rough crystals of Burma ruby, Mexican apatite, Brazilian topaz and Ceylon sapphire.

Queens Mineral Society of Long Island was awarded 1st place for a general display of cabinet specimens. Much admired among them were large well-crystallized pieces of Brazilian citrine, English fluorite, Paterson amethyst, Franklin rhodonite Clay Center celestite, Arizona azurite-malachite, Maine cinnamon garnet, Illinois fluorite and Michigan copper.

Newark Lapidary Society took 1st award for faceted stones and polished spheres. Handsome gems were seen, cut from aquamarine, citrine, amethyst, tourmaline and garnets. The spheres were of several sizes and various materials including rose quartz, crystal quartz, malachite and several of the Franklin ores.

The award for a display of minerals of one family group went to the New York Mineralogical Club for a very comprehensive cabinet of tourmaline. Besides large crystals from Maine, Connecticut, California, Brazil and Madagascar, there were cross section slabs to show the distinctive trigonal arrangement of tourmaline. There were also discs about an inch in diameter which are used in pressure gauges to determine the force of explosions.

The display included several books about tourmalines, two of which were printed in Japanese. This exhibit was shown by Dr. Frederick Pough.

To the Gem Cutters Guild of Baltimore went 1st place for polished slabs of various primary mineral materials, several of petrified wood.

The Rockland County (N. Y.) Mineral and Gem Society was given 1st place for hand made rings with mounted stones. The rings were all of silver, widely differing in design.

Flemington Mineralogical Society captured 3rd place with crystals.

Miami Mineral and Gem Society received a number of ribbons; 2nd for faceted stones, 2nd for hand-made jewerly with mounted stones, 3rd for hand-made rings with mounted stones, 2nd for polished spheres, and 2nd for attractiveness of display.

(to be continued)

Club and Society Notes

Brooklyn Mineralogical Society

This year, under the guidance of our President, Nils Stark, the Brooklyn Mineralogical Society has made tremendous strides. Completing two years of existence, we are proud to have gained and to have held the interest of so many new members. We attribute our success to several factors. Perhaps other clubs can benefit from our experiences.

We meet bi-monthly. At our Business meeting one special mineral is designated for discussion and trading, and we have the opportunity to purchase beautiful specimens. Mr. Einar Whalen, our Program Chairman, usually invites a speaker, or assigns that particular mineral to one of our members, who brings us information and who leads the discussion. Members bring their specimens of this mineral for comparison. We think that one of the most interesting meetings we had was when Mr. Victor Pribil (now President of the New York club), spoke on the cutting and polishing of cabochons. Mr. Pribil's color films of his home-made equipment and finished cabochons (just gorgeous to look at), encouraged us in the do-it-yourself trend.

Our second meeting each month is a "Bull Session", where we swap specimens and sit around just to talk and brag. We serve coffee and cake at all our meetings.

Another and very important factor in the success of our club is the excellent planning of our field trips. Mr. Joseph Kautz as Chairman, plans trips alternate Saturdays and Sundays, and sends a detailed map drawing and information to each member. In this way, even the late birds can meet us at the localities. We expect to continue our field trips during the summer.

As we continue to expand, we hope to bring many other phases of Mineralogy to our members.

Edward Weissbard, Corresponding Sec'y
8002-19th Ave.
Brooklyn, N. Y.

Gem & Lapidary Society of New York

At the meeting of the Gem & Lapidary Society of New York on June 10th, two films were shown. One was on silversmithing, the other on gold and its preparation for jewelry work.

A large group of members went to Fonda, N. Y. during the May 23rd weekend for Herkimer "diamonds" with better than average results.

A series of cabochons cut from materials from the dump of the Ringwood, N. J., Iron Mine were shown. These consisted of Epidote, Epidote Quartz and Feldspar in various mixtures, sprinkled with Magnetite. This location has never before been mentioned as a source of cutting material.

Martin Walter, Chairman
Publicity Committee
Hotel Paris
West End at 97th St.
New York 25, N. Y.

Vermont Mineral Club — 25th Anniversary

The Springfield (Vermont) Mineralogical Society recently celebrated the 25*th* Anniversary of its founding at the Coon Club in Windsor, Vermont. Sixty-five members and guests were served a shrimp and steak dinner prepared by the Club's Past-President, Richard Blodgett.

The dinner was followed by a program especially arranged for the Charter Members. "A Rock Hound's Psalm" was read, followed by the "History of the Springfield (Vermont) Mineralogical Society." The President, Charles V. Thayer, welcomed the Charter Members and the Vice-president Gilbert Carley assisted by presenting each with a specially designed tie clip set with a Brazilian Carnelian Agate. The program closed with a song—"Ballad of a Rock Hound"—lyrics by Vice-president Gilbert Carley.

Mrs. Nelson R. Longe, Sec.
5 Leonard Ave.,
Springfield, Vt.

Advertise in

ROCKS and MINERALS

INFORMATION WANTED BY READERS

Wants to trade with young collectors!

I would like to have some addresses of children who would want to trade minerals. Could you please find someone near Chelsea, Mass.?

Ben Liberty
74 Bloomingdale St.
Chelsea 50, Mass.

Is there a club on Cape Cod?

Do you know of a mineral club on Cape Cod, Mass.?

Mrs. John E. Warren
Box 72, Eastham (Cape Cod) Mass.

As far as we know, there is no mineral club on Cape Cod.

Is there a fossil collector in New York City:

I wish to contact an amateur fossil hunter in New York City for the purpose of hunting fossils together. Can you please help me on this subject? I would very much appreciate this.

Irving Berenzweig
986 Leggett Ave.
Bronx 55, N. Y.

Club Librarian needs ideas!

Are there any mineralogical and/or lapidary clubs or societies that have their own libraries? The Library Committee of the North Jersey Mineralogical Society would appreciate having ideas and suggestions for a simple, very useful library. Please write to Miss B. M. Gosling, 151 Glen Ave., Millburn, N. J., Chairman Library Committee.

P.S.—The North Jersey Mineralogical Society meets the 2nd Thursday evening each month at the Paterson Public Library, Paterson, N. J. Visitors very welcome.

Who is the man?

Would the man from New Jersey who sold the Paterson minerals to us please get in touch with us? We have lost his card, and do not remember his name, and would like to obtain some more of his minerals.

The Thurstons
Morningdale, Mass.

Composition of Catlinite

Can R&M or any of its readers give me the composition of catlinite (pipestone)? Pipestone is plentiful here in southern Ohio and since it is becoming so popular with mineral collectors as specimens and for carving small artifacts, beads, pipes, turtles, birds, fish, etc., I would like to know its composition and the percentage of each constituent. In case no one knows the composition I would be glad to send specimens to anyone who can make the analysis.

L. F. Grashel,
1702 Highland Ave.
Portsmouth, Ohio

Ans. Catlinite (pipestone) is not a true mineral species, but a red clay. Its approximate composition is as follows:

SiO_2	57%
Al_2O_3	28%
Fe_2O_3	8%
H_2O	7%
MgO,CaO (trace)	0%
total	100%

For a good article on catlinite see, "Barron County, Wisc., pipestone quarry," by J. A. Helland, July-August, 1954, R&M, pp. 396-397.

What is chevkinite

I am interested in obtaining information on the mineral chevkinite (sometimes spelled tscheffkinite). So far, I have only been able to find out its hardness, which is 5.5, and its gravity, which is 4.5. I have looked in the latest editions of Dana's System, Volumes 1 and 2, and Dana's Manual of Mineralogy, but have found nothing. Can you help me?

David Peacock
214 New Jersey Ave.
Point Pleasant, N. J.

Ans. This is an old mineral that was first found over 100 years ago in the Ilmen Mountains in the Urals (Russia). It has a number of names such as chevkinite, tscheffkinite, tschewkinite, but its now called by the first name, chevkinite.

Chevkinite is a massive, amorphous silicate and titanate of calcium, aluminum, iron, cerium, and thorium. Hardness 5-5,5. Sp. gravity 4.5. Luster vitreous. Color velvet-black. Streak dark brown. Subtranslucent to opaque.

It was named after a Russian general, Tschevkin (Chevkin).

Advertise in Rocks and Minerals

Rocks & Minerals Association

(International)

NOTES & NEWS

Don Presher, Pres. Box 146, Montrose, N. Y.

Following our policy of aiding and encouraging the formation of new mineral clubs we are listing the names and addresses of the following members who wish to contact interested parties in their respective communities with the hope of forming a mineral club.

Owego, New York area—Richard Clair, R.D. No. 320, Owego, New York.

Lorain, Ohio area—Michael Parr, Jr., 2165 E. 29th St., Lorain, Ohio. Tel. BR. 7-7497.

Ogunquit, Maine area—Frederick E. Kemp, Ogunquit, Maine.

Dover, New Jersey area—Jim Gill, 44 Princeton Ave., Dover, N. J. Tel. FO 6-1687 after 5:00 P.M.

Peekskill, New York area—Mr. and Mrs. A. Schisler, Montrose, N. Y. Tel. PE 9-2782.

Best of luck to all of you and please let us know how things work out.

My wife and I spent a few days in upper New York, Vermont and New Hampshire recently, and while in New Hampshire I had the opportunity to visit the Beryl Mountain Quarry at South Acworth. I had been informed of Beryl Mountain by Mr. and Mrs. Harvey Bailey of Unionville, Conn., who had presented me with two fine specimens from there (green and golden beryl). Upon our arrival at Acworth we looked up Rev. M. Everett Corbett (visiting rockhounds welcome) who is the pastor of a beautiful old church there and is also an avid rockhound. After being privileged to examine his extensive collection, we received explicit directions to Beryl Mountain. The next day we proceeded there and did find some nice specimens but nothing to compare with the ones presented by Mr. and Mrs. Bailey. I guess you have to know just where and how to look. (I hope to learn in time). White quartz is now being taken from the dumps and is processed to be used for concrete flooring.

We made one other stop for minerals at Middleville, New York, which is about nine miles north of Herkimer. Don Hurley of Little Falls gave us directions to the location in Middleville and told us that the Tabor farm there was about the only collecting place that was not posted, most of the old locations were now out of bounds, mostly due to the inconsideration of some so-called collectors.

The Tabor farm is on Route 28 about nine miles north of Herkimer. It is on the left side of the road just before you enter the town of Middleville. The charge for collecting was $2.50 for myself and $1.00 for my wife. We found the owner helpful by showing us the best spots and telling us just how to go about looking for the "diamonds." He also presented us with a 2" crystal before we left which was appreciated. We found quite a few nice "diamonds" on the surface of old digging. It had rained hard the night before which helped to uncover them.

The owner has built some picnic tables under the apple trees and there is a spring nearby, which makes it a nice place to spend a day with the family.

I am very pleased to find that many of you are writing for the shoulder or pocket patches. We now have them in stock and can supply them promptly. (See our ad in this issue.) I also note that many are using the scotchlite decal on their cars. (See Duersmith's ad.) This is fine and I know that the more of us that identify ourselves with this largest association of its kind, the more help and pleasure we will derive from it. Let's all pull together and let everyone know what R&MA stands for. I know that I

have belabored the identification theme but I do feel that it is so very important in assuring our full measure of pleasure and enjoyment. So much hinges on our being able to recognize fellow members. How many times have you tried to find a location in strange territory? What would you give at this time to spot the R&MA emblem on a local citizen or car? Or to have some local member observe the emblem that you display? That emblem would make all the difference in the success of your trip.

Wearing the emblem on your trips will also build up the respect and consideration for our members with mine and property owners, by our respect and consideration of other people's property we can keep the doors open, too many are now closed because of this lack. Let's have those two words mean R&MA.

I want to thank you for your support and encouragement and I know you will keep the ball rolling. Talk R&MA to the right people, we want them on our side.

Best of luck and happy hunting.

Please send a self-addressed stamped envelope when applying for membership card. All correspondence relating to this column and to the Association should be mailed to me, Don Presher, Box 146, Montrose, N. Y.

Lapis Lazuli Mine, Ontario Peak, California

Lapis Lazuli is a mixture of a number of minerals, the most prominent being lazurite, which gives it the deep-blue color. Because it takes a beautiful polish, lapis lazuli is a very popular ornamental stone. The finest lapis lazuli comes from Badakshan Afghanistan; other localities are the southern end of Lake Baikal, Siberia; Ovalle, Chile; North Italian Mt., Gunnnison Co., Colo., and near the summit of Ontario Peak in the San Gabriel Mts., San Bernardino Co., Calif.

A 6½ page article. "Trip to Lapis Lazuli locality at Ovalle, Chile", by Rafeal Perez, appeared in Sept-Oct. 1958 R&M (still available).

WITH OUR ADVERTISERS

Conducted by James N. Bourne

c/o Rocks and Minerals. Box 29

Peekskill, N. Y.

Advertisers are cordially invited to submit News Items to this Department

The following note was received from the Thurston's who regularly advertise in R&M.

"The Thurston's of Morningdale (Boylston), Mass., wish to extend their thanks to the Eastern Federation, and to everyone connected with the show for the excellence of the show as a whole.

"We also want to thank all of the collectors who patronized our booth, and the dealers who were so kind and helpful to a couple of beginners. And last, but not least, our grateful thanks to our friends who helped us in the booth, baby sat with our two girls, and helped us load and unload our car."

Note: All of the above good deeds certainly speaks well of the convention held in Boston last July and of the many good people so attending.

Breeders Equipment Co., Flourtown, Pa., is featuring an "Emergency Oxygen Unit" via one of their classified ads this issue that will be of interest to those looking for just such an item at a price that makes it available to anyone.

"The Emergency Oxygen Unit" weighs only 4 lbs., easy to operate, instructions included. Just the thing for that mountain trip. The unit is complete with a face mask and ready to supply oxygen at a moment's notice in case of heart attack, asmatic attack, electric shock, drowning or to relieve fatigue. A valve regulates oxygen flow and the unit is safe. Spare oxygen tanks are available. Note our ad this issue in R&M for price and other details."

Note: The Emergency Oxygen Unit would bring relief to the tired rockhound after that long trek through the woods and up the mountain with his bag full of heavy specimens slung over his bent back—you bet.

Joseph P. Stachura, formerly of 8 Upton St., Millbury, Mass., and in need of larger quarters for his expanding business has moved to an attractive site near Uxbridge, Mass., a small town between Worcester, Mass., and Providence, R. I. We quote Joe as to the following data re: to his new place.

"One interesting feature about our new property is an old abandoned quarry which we have not yet visited, but will do so at our first opportunity—who knows—it may be full of interesting minerals. Another interesting feature is, the house on the property was built in 1766 of brick made right on the site."

Note: We're pleased to know that your business has expanded to the point whereby larger quarters are necessary and may you enjoy even more business at your new location. Mr. Stachura may be contacted for lapidary equipment, gems, minerals and jewelry. Our best wishes to Mr. Stachura and family and all manner of success in years to come.

Another advertiser in R&M, Don L. Jackson, P.O. Box 458, Claypool, Ariz., sends us his latest bargain price list containing the following:

"Beautiful flashing red garnets, not so thick so red color shows well; smoky quartz cut from the finest Brazilian rough; beautiful green peridots from San Carlos, Ariz., very nice gem opal cabs from Andamooka jelly rough; and many, many more.

"Unconditional money back guarantee of satisfaction or money back if goods are returned within 10 days and in same condition as when mailed them."

Note: Mr. Jackson has some very nice material and personally handles all orders received to see that you get the best.

John M. Wise, 108 West Fayette St., Baltimore 1, Md., who is currently advertising in our display section each issue; sends us the following announcement of interest to everyone.

"On or about August 31st we will open our new store at 403 North Charles Street, Baltimore 1, Maryland.

"On these premises which are located on one of Baltimore's most frequented and populated downtown streets we shall endeavor to acquaint the 1½ million of Baltimoreans with the wonderful world of gem materials, jewelry mountings and finished gem stones. For our friends the rockhounds it will be a paradise of 1200 square feet of gem materials on display. One of our main attractions will be a 72 carat fine star ruby which we finished cutting last month. We shall call it the "Star of Maryland."

"This new store will have all facilities to make shopping and browsing pleasant, is air conditioned and extremely well illuminated. No clerks to pressure the customer who will decide for himself whether he wants to be waited on or just likes to look. Informative bulletins with helpful tips for the amateur cutter or jewelrymaker will be free for the asking."

Note: We know your new store will enhance the area in which it is located and be well attended not only by Baltimoreans but visiting rockhounds from all over. Congratulations, Mr. Wise!

Kaiser's Gems and Minerals, 1304 East Main St., El Cajon, California, are sole distributors of "The Prospectors Pocket-Book," by Ralph N. Whitney. They tell us:

"The Prospectors Pocket-Book contains a simplified table for field determination of commercial minerals. This book sells for $3.85 and contains much useful information for prospector and rockhound alike."

Note: We have been the recipient of a copy of this book from Kaiser's Gems & Minerals and find it factual and most useful. A good item.

When down 'Arkansas Way' be sure to drop in on the John Roders', on Hwy. 7, north out of Hot Springs, Ark.

They have their mineral museum going there and have about 30 2' x 2' cases full of minerals on display and with many more to come. Rockhound car plates may be purchased from the Roders' as well as good agatized coral.

For some very nice dolomite pyramids collected in Major County, Okla., by the Paintons' of Painton's Rockery, Orion, on U.S. 60 W, Fairview, Okla., just note their ad currently running in R&M display section.

Our Editor enjoyed meeting the Paintons' while attending the Rocky Mountain Show in Wichita, Kansas last April and sends his regards to Elaine and Janice as well as to their parents, Ivan and Mildred Painton.

From Mr. and Mrs. Ralph E. Merrill of Minerals Unlimited, 1724 University Way, Berkeley 3, Calif., we receive the following note they wish passed on to our readers.

"We hope your readers will notice that we have compensated for the slight rise in prices by giving additional specimens in each set. We really enjoy doing business with the ROCKS AND MINERALS family and wish they knew how busy we are trying to be sure that the specimens they buy from us are always the best buy . . . In fact, tell them all to drop in at our shipping department any time they are in town, so they can see for themselves."

Note: Minerals Unlimited has been advertising in R&M for a good many years and we received many fine comments on the very nice material they offer at very reasonable prices. Our best wishes to the Merrill's.

A very nice silver nugget containing copper and malachite from Keeweenaw Peninsula, Mich., was received from Frank H. Waskey of Oakville, Wash. Thank you Mr. Waskey.

Note: Mr. Waskey advertises regularly in our "Where to Get It" section in R&M and readers may obtain similar specimens of above and other nuggets from Michigan and Alaska from his ads this issue. Very nice, too.

Mr. E. W. Beissinger just informed us that his firm now occupies new and much larger quarters at 402 Clark Building. The Beissinger's have been Gem Importers and Cutters for 10 years and their business has grown larger every year. They are known for very prompt service, both for selling cut gemstones and their marvelous cutting service of customer's rough material at their own shop in Idar-Oberstein, Germany. The Beissinger's who advertise regularly in R&M wish to thank all their customers for helping them grow. Their slogan "Precious stones for precious little" means just that.

From Alfred J. Protas of the Dixie Minerals Co., 3405 Grand Ave., Fort Smith, Ark., now advertising in R&M this issue, comes the following:

"I am new in the rock business but I am not new in experience that is to do with Geology or Mining. I have a very large deposit of kaolinite located in Pike County, Ark. I also have a large deposit of gypsum with some very fine satin spar. I also have a good manganese mine that I would like to turn over to some responsible person, and last but not least, I think I have one of the finest deposits of quartz crystals in the state. I am in a position to offer anything in the quartz line to all comers, including dealers.

"I am a rockhound from a way back and have the rocks and minerals to prove it. I would like to hear from anyone that I might be of some help to. If he is a rockhound he is O.K. in my book, so if any rockhounds want to contact me, please tell them to do so. I have found diamonds around Murfressboro, as well as amethyst, petrified trees 75 feet in length, and many, many other very intresting things."

Note: Well, we're sure pleased to hear from you, Mr. Protas, and may you receive many interesting letters from rockhounds as to your quartz crystals for sale and to your offer re: to your manganese mine.

VISITING . ROCKHOUNDS . WELCOME

The following subscribers would be delighted to have rockhounds call on them when passing through their cities. If any one else wants his name added to the list, just let us know.

John J. Brown, 5016 E. Broadway, North Little Rock, Ark.

John & Clara Roder, ½ mile south of junction Hwy. 7 north & 70 between Hot Springs & Little Rock, Ark.

CWO Vernon R. Braun, 9004 Rosewood Drive, Sacramento 19, Calif.

Mr. & Mrs. E. J. Bentsen Rt. 1, Box 508, Delhi, Calif.

Mac & Maggie McShan, 1 Mi. west on Hy. 66, Needles, Calif.

Porter, A. W., Pepperwood, Calif.

O. A. Reese, 806 E. Boulder St., Colorado Springs, Colo.

F. J. Strah, Buena Vista, Colo.

Mr. & Mrs. Stephen Ridel, 228 S. Center St., Windsor Locks, Conn.

Randall Bohmer, 208 Warren St., New Britain, Conn.

Mrs. John Branch, 3820 Ridge Ave., Tampa 3, Fla.

P. W. Holstun, 5235 Attleboro Ave., Jacksonville 5, Fla.

Mrs. Bertha Lawrence, 2311 Arcadia Dr., Miramar, Hollywood, Fla.

Louis C. Davis, 505 S. Slappey Dr., Albany, Ga.

C. K. Henning, Union Pacific R.R. Shoshone, Idaho, (Phone 6011)

Gerald Esplin, Rt. 2, Box 44, Shelley, Idaho.

Anthony Gricius, 4426 Montana St., Chicago 39, Ill.

Maurice Lamb, Niota, Ill.

John H. Kaiser, East 3rd St., Sheridan, Ill.

Ralph Dugan, 1338 Franklin St., Columbus, Ind.

Susan Tranter, 2 E. Walnut, Sharpsville, Ind.

John Burmeister, Preston, Iowa.

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Lyle De Rusha, RR 4 Chippewa Falls, Wisc.

Herman Kraege, Lima Center, Wisc.

Mr. & Mrs. C. O. Gariott Box 1, Sand Draw, Wyo.

Thomas L. Sellers, Box 186, Margarita, Canal Zone

Mr. & Mrs. W. F. Erichsen, 2075 Lansdowne Rd. Victoria, B.C., Canada.

Douglas Scott, Markham, Ont., Canada.

Ralph W. Caton, 51 Valley St., Concord, N.C.

PUBLICATIONS RECENTLY RECEIVED

Plants as a Guide to Mineralization

"PLANTS AS A GUIDE TO MINERALIZATION" is the title of the latest publication of California Division of Mines, according to an announcement by Ian Campbell, chief of the Division.

Issued as Special Report 50, the booklet describes a technique of "biogeochemical prospecting" that is relatively new. It is a rapid, inexpensive method of prospecting that may become an important adjunct to the systems now in use for locating buried ore deposits.

Such a buried deposit may provide to the soil above it an abnormal amount of the metal or metals it contains; in turn, the soil may provide a large amount of the same metals to the plant cover. The ore deposit may therefore, under favorable conditions, be detected by the abnormally high concentration of these metals in the plants, or by the distribution of plants that will or will not tolerate certain metals more readily than others. If the plants are systematically collected and carefully analyzed, the results may indicate the possibility of a buried ore deposit. It is the technique of sampling, analyzing, and interpreting the plant cover that is called biogeochemical prospecting.

An important feature of the new report is a lengthy bibliography, citing references from most published works dealing with biogeochemistry, no matter in what country or language they were printed.

Written by Donald Carlisle of the University of California, Los Angeles, and George B. Cleveland of the staff of the Division, Special Report 50, a paper-covered, 31-page booklet, is priced at 50c. Orders may be sent to the Division's main office, Ferry Building, San Francisco 11, Calif., or the booklet may be purchased over-the-counter at any of the branch offices: in Los Angeles at the State Building, 217 W. First (at Broadway), in Sacramento in the Business and Professions Annex, 1021 O Street, or in Redding at the Natural Resources Building, Cypress and Lenning Streets. California residents, if ordering by mail, please enclose 4 percent tax.

"THE MAINE MINING LAW FOR STATE-OWNED LANDS"
By John R. Rand

This 8½" x 11" 16-page booklet is the second edition of the description of Maine Mining Bureau regulations regarding exploration and development of mineral resources on State-owned lands. The booklet describes the general operation of the Mining Bureau, and discusses the revised statutes concerned with mineral development on lands under Mining Bureau jurisdiction. The booklet contains a copy of the pertinent statute, Chapter 135, Public Laws of 1959, as enacted by the 99th Legislature—An Act to Clarify the Maine Mining Law. This new act embodies several changes in the original law, which was enacted by the 98th Legislature in 1957.

Included in the booklet are 2 full-page plates showing methods of claim staking, and a sample claim description map. There is also a back page folded index map showing the location of public lots reserved for schools which are available for mineral development under authority of the Maine Mining Bureau.

Price: $0.34 plus 1c sales tax for in-state purchasers

Address orders to: State Geologist
Department of Economic Development
Room 211, State Office Building
Augusta, Maine

Payment in check or money order - payable to the *Treasurer of the State of Maine* - or cash, at the sender's risk. Postage stamps cannot be accepted in payment.

Penn. Guidebook.

The following note was sent in by Howard H. Myers, 402 Oak St., Ridgway Penn.

"Just recently received a new 38 page publication issued by the Pennsylvania Geological Survey.

"This booklet would make a very good guide for the fossil collector and any one interested in geology.

"Below is the way this booklet is advertised in the INTERNAL AFFAIRS monthly bulletin."

New Guidebook

Bulletin G 29, "Guide to the Highway Geology from Harrisburg to Bald Eagle Mountain," by Bradford Willard, Richard Conlin and Donald Hoskins, has recently been announced by the Pennsylvania Geological Survey.

This book describes the geology (including mineral and fossil collecting localities) from Harrisburg through the Appalachian Mountains along the scenic Susquehanna and Juniata rivers to Lewistown, then north to Bald Eagle Mountain by the way of Penn. Valley and State College. It is generously illustrated with drawings and photographs and four large geologic strip maps of the route.

This publication is available from the Division of Documents, 10th and Market Streets, Harrisburg, Pa., at the cost of twenty-five cents.

Dealers Catalogs

Minerals Unlimited, 1724 University Ave., Berkeley 3, Calif., have issued an 8 page price list - "Fine Mineral List, No. 8-59" which features many fine minerals from the recently acquired Kessler Collection. Send today for a copy of this list.

Iron Meteorite from Quinn Canyon, Nevada. Weight 3,275 pounds. Composition, iron 92%, nickel 7%.

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(Wyoming Convention-Cont'd from p. 399)
The new officers chosen for this 1960 Convention are: President, William McClure; Torrington, Wyo.; Vice President, Mr. J. Griffin, Torrington; Secretary, Mrs. Charles Bass, Jay Em, Wyoming; and Mrs. J. O. Duguid, Lusk, Wyoming-Treasurer.

Among the Rocky Mountain Federation of Mineralogical Societies officers who were in attendance at the Wyoming State Convention are: President-Mr. C. C. Williams, Lawrence, Kansas; Director- Norman L. Flaigg, Oklahoma City, Okla.; and Treasurer-Richard Siebenaler, Kimball, Nebraska.

Tal and Trudy Contact Mrs. Carson!

One couple from somewhere in New Jersey and who wrote for something from South Carolina to add to their "States" collection, are probably wondering why they have never received the package I wrote I would send them. After I wrote to them I unfortunately misplaced their letter, can't remember their town or their surname—just "Tal and Trudy" —Could you suggest a way for me to communicate with them? I like to be as good as my word—and their package has been ready for weeks.

Mrs. A. B. Carson
12 Cateechee Ave.
Greenville, S. C.

Once a sea dog now a rock hound!

Editor R&M:-

I am very much interested in R&M.

I am an old retired sailor (marine engineer) and the only minerals I knew before I read R&M was bituminous coal, the slate found with the coal, and fire brick. Now I have over 200 mineral specimens—some rare ones.

R&M, the rock hound's Bible, will teach you to know rocks and minerals, if you can read.

Once a sea dog now a rock hound!

Ben Brown,
Wingdale, N. Y.

Spreads good word about R&M!

Editor R&M:

I've subscribed for R&M for 2 years. Ever since then I have looked forward to every issue and always I find that it is a little superior to the previous one. It's no wonder that everywhere I go I find rockhounds that are also subscribers for R&M. They too share my anxiety to find R&M in the mail box. I know I will and all other subscribers probably (positively) will continue to spread the good word about R&M.

July 22, 1959

Harry Hollingsworth
5105 Neptune Way
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